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CEEDO TR-78-54

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**F-100 Turbine Engine Afterburner  
Emission Tests.**

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SCOTT ENVIRONMENTAL TECHNOLOGY, INC  
PLUMBSTEADVILLE  
PENNSYLVANIA 18949

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SEP 1978

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FINAL REPORT, FOR PERIOD NOVEMBER 1976-DECEMBER 1977,

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F08635-77-C-0216  
Approved for public release; distribution unlimited

**CIVIL AND ENVIRONMENTAL  
ENGINEERING DEVELOPMENT OFFICE**

(AIR FORCE SYSTEMS COMMAND)

TYNDALL AIR FORCE BASE

FLORIDA 32403

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20. ABSTRACT (Continue on reverse side if necessary and identify by block number)  The afterburner exhaust emissions from three F-100-P-100 engines were measured. Emission rates of hydrocarbons, carbon monoxide and oxides of nitrogen were calculated. Smoke numbers were also measured.		

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## PREFACE


This report documents the F-100-P-100 afterburner emission measurements and data reduction performed during the period November 1976 through Dec 1977 by Scott Environmental Technology, Inc, Plumsteadville PA 18949, under contract FY8952-77-625 with Det 1 Armament Development and Test Center, Air Force Systems Command, Tyndall Air Force Base FL 32403. Lieutenant Harold A Scott, Det 1 ADTC/ECA managed the program.


A special thanks is given to Col William R. Quasney, Aeronautical Systems Division/YFJ, for initiating the F-100 engine test program and Pratt and Whitney Aircraft, Government Products Division, West Palm Beach FL for their support of the project.


The low cost afterburner sampling probe was developed by Mr Richard Williams, ARO, Inc, under contract to Arnold Engineering Development Center, Arnold Air Force Station TN and Det 1 ADTC/ECA.

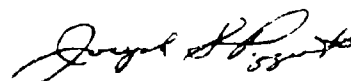
This report has been reviewed by the Office of Information (IO) and is releasable to the National Technical Information Service (NTIS). At NTIS, it will be available to the general public, including foreign nations.

This report is approved for publication.

  
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## SECTION I

### INTRODUCTION

The F-15 and F-16 aircraft will be deployed in large numbers during the 1980s. Each time one of these aircraft is deployed at a U.S. Air Force installation, the aircraft's impact on the air quality must be assessed. Accurate engine emission factors are required to make air quality impact assessments. The emission factors are determined from actual exhaust plane measurements at each engine thrust setting. All thrusts except afterburner have been measured in previous tests. High temperatures and pressures did not permit afterburner emission measurements. The afterburner emission factors are extremely important to impact assessments because of high fuel flow rates and reactive plumes.

Scott Environmental Technology was contracted by Det 1 ADTC to measure minimum and maximum afterburner pollutant concentrations from three F-100-P-100 turbine engines. The raw measurement data, exhaust plane and downstream steady state emission factors are presented in this report. Steady state emission factors were derived by using an afterburner reactive plume model, these provide an estimate of the actual rate of the pollutants entering the ambient air.

## SECTION II

### EMISSION MEASUREMENTS

#### 2.0 F-100 Emission Measurements

The F-100-P-100 engine exhaust emissions were measured using the AF Mobile Emission Measurement Laboratory (MEL). The MEL's instrumentation and sampling systems are described in Reference 1. The F-100 emission tests were performed on an outdoor sea level static test stand at Pratt and Whitney's West Palm Beach Facility. The jet exhaust blew straight back from the test stand without confinement. The engine's mounting rails were on an elevated platform. The probe's transversing assembly was mounted on the platform such that the sample inlet ports were located 0.127 meters behind the engine exhaust plane. The MEL was located adjacent to the test stand on the opposite side of the existing sound barrier wall. The noise level within the MEL during the minimum and maximum A/B tests (up to 95 dba) required the use of ear protection devices.

A specially designed, water cooled, "quick" quench A/B probe was used to sample the engine exhaust emissions (Figure 1). The probe's sample inlets were recessed and encased in a steel jacket. Water was circulated through the jacket at a regulated maximum flow rate of 1.26 l/s to keep the probe from melting under the 2000 °C plus exhaust temperatures. The probe cooling water was heated and kept at 148 °C to prevent condensation of the gaseous exhaust emissions and particulate matter.

The probe quenches or "stops" the chemical reaction of the gas. This quenching effect is accomplished by expansion cooling and heat transfer in the probe. Thus, the carbon monoxide, hydrocarbon and other gaseous pollutant emissions at the exhaust plane represent emissions before any plume reactions takes place. The tests consisted of exhaust gas and smoke level emissions analyses.

The emission analyses were performed using the MEL. The MEL meets all the standards set by the Environmental Protection Agency (40CFR87) and the SAE Aerospace Recommended Practice (ARP) 1256. It is a state-of-the-art analysis system for turbine engine exhaust emission measurements.

Thirteen point samples were taken at each power setting, six on each sampling diameter of the plus and minus thirty degree axes plus the center (Figure 2). The F-100 exhaust nozzle diameter varies with the A/B power setting. Therefore, the point locations along the sampling diameter representing equal areas were calculated for both the minimum and maximum A/B power settings. The normal sampling points used are shown in Table 1 and correspond to the sampling point numbers in Figure 2. The engine was operated continuously at both minimum A/B and maximum A/B for the emission tests.



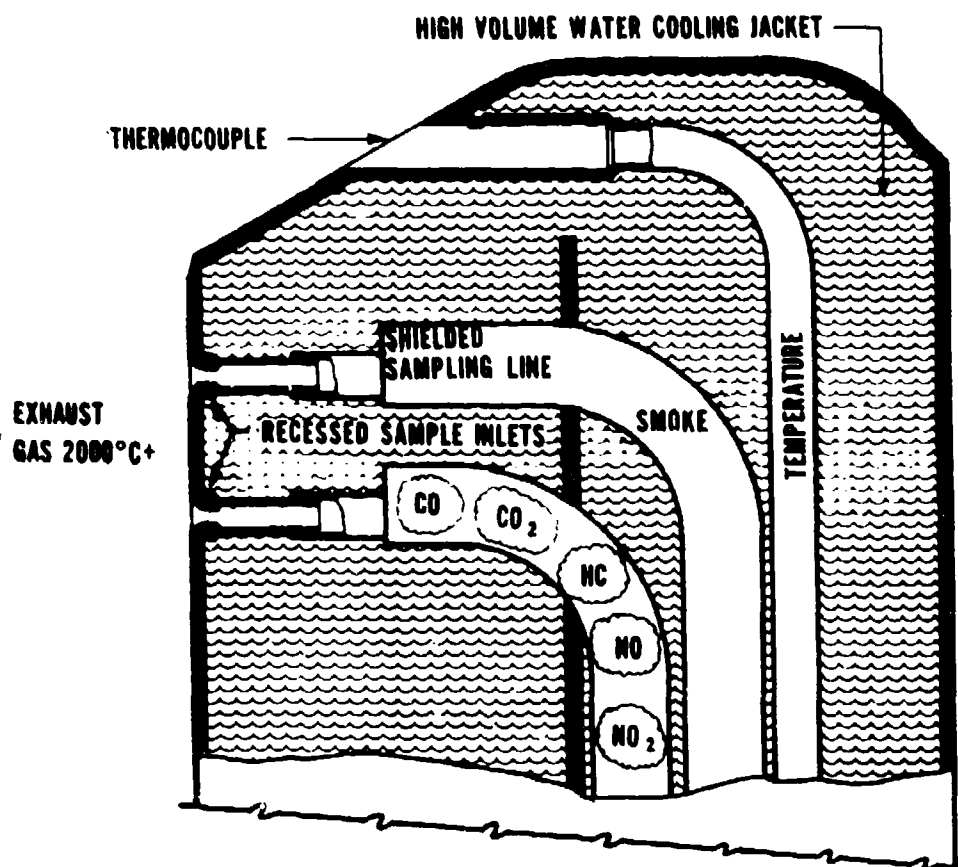


Figure 1. A/B Sampling Probe

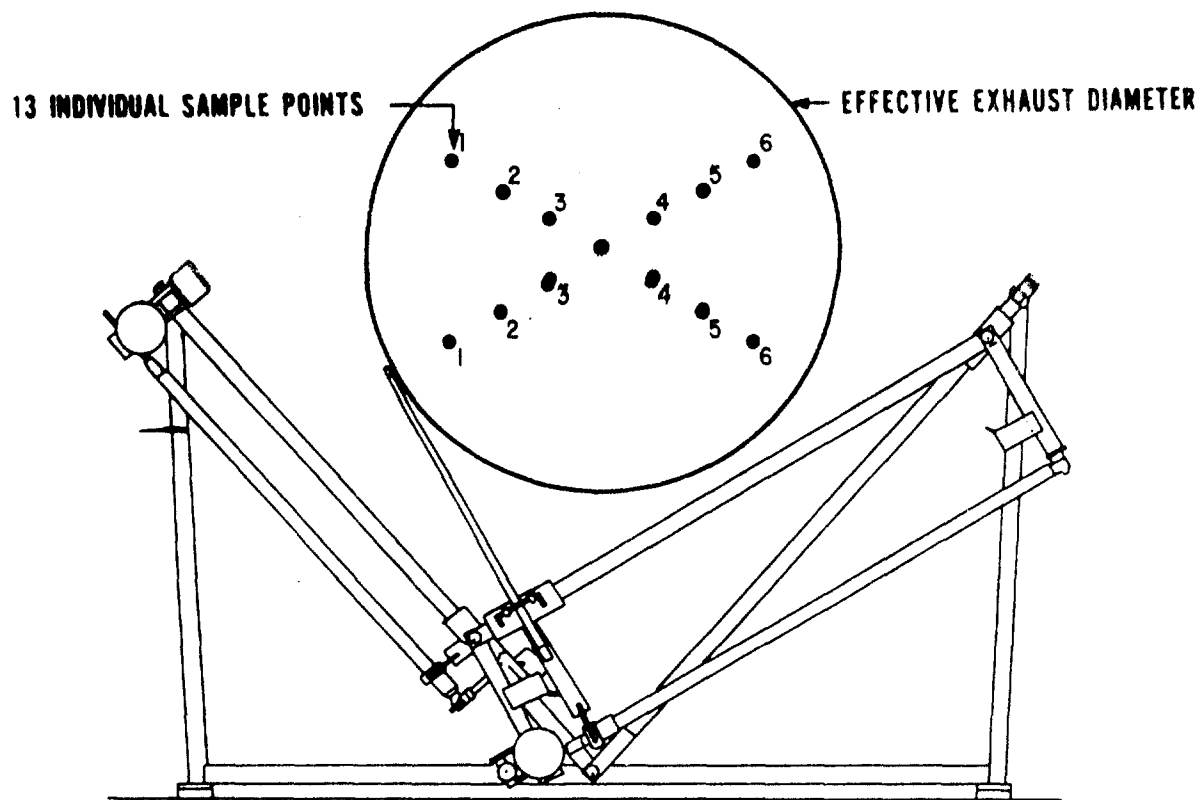


Figure 2. Probe Positioning Assembly (Front View)

TABLE 1. F-100 A'B SAMPLE POINTS

Power Setting	Nozzle Diameter (meters)	Sample Point Radius (meters)		
		Points	Points	Points
		No 1 and 6	No 2 and 5	No 3 and 4
Minimum A/B	0.62	0.28	0.22	0.13
Maximum A/B	0.78	0.36	0.91	0.16

The total hydrocarbon, carbon monoxide, and total oxides of nitrogen emission rates for minimum and maximum AB thrust power settings were computed directly from the measured exhaust concentrations (Reference 1). Sulfur emission rates were determined assuming complete oxidation of the fuel sulfur to sulfur dioxide and fuel flow rates. Emission rates are reported as emission indices (g pollutant/per kg fuel) and kg/hr. The reports containing the results are presented in the appendix as follows:

- a. Model Summary Report (Appendix A) - A statistical summary of the test results presented in an emission index format.
- b. Individual Engine Test Reports (Appendix B) - Each engine's test results are described.

The raw data are also in the appendix. These data are categorized in the following reports: Mass Calculation; Engine Edit Report; Smoke Edit Report; and Concentration Edit Report (Appendices C through F).

## 2.1 Emission Tests

The F-100-P-100 engines reached an average maximum A/B thrust of 89500 N with exhaust temperatures exceeding 2000°C. These conditions caused minor problems with the probe assembly and sampling systems. The problems did not have any significant effect on the overall results.

The iridium-iridium/rhodium thermocouple (Figure 1) performed for seven of the thirty-nine sample points tested. A maximum temperature of 2093°C was recorded. The extreme vibration and heat destroyed the thermocouple's zirconia shield within the first ten minutes during all three maximum A/B tests. The average for the seven recorded temperatures are used in mass flow calculations. The use of an average temperature did cause some problems with the hydrocarbon emission calculations and these problems are discussed in 2.2. The thermocouple assembly performed well for the minimum A/B measurement. A maximum temperature of only 760°C was recorded for minimum A/B.

The intense vibration loosened the probe assembly's fittings and fasteners. However, no sample line leaks were detected. Minor probe positioner repairs were required after the first minimum A/B test. No other repairs were made for the rest of the tests.

The high water content of the exhaust (approximately 14 percent) caused some difficulties in the analysis equipment. The water was kept in the gas phase by heating the instruments and sample lines in the MEL. All lines were heated to a minimum temperature of 66°C. Nevertheless, a small amount of water condensed in the lines and flowmeters downstream of the analyzers. Water droplets made it difficult to read the sample flow rates.

## 2.2 Data Observations

The total hydrocarbon levels at Max A/B power were much lower on the first engine tested than on the subsequent two engines. The emission index value for the first engine was 0.6 g/kg and the other two were 5.3 and 5.0 g/kg hydrocarbon index. The value of 5.0 g/kg hydrocarbon index on engine three is the area weighted value. Only seven temperatures were recorded for the Max A/B run. Since only those data points where temperature was recorded could be used to determine mass flow and the average emission index, the mass flow weighted average hydrocarbon index produced a distorted value of 3.6 g/kg of fuel. Therefore, mass weighted value for the hydrocarbon index was not used in the Model Summary (Appendix A).

The values of carbon monoxide emission index, total oxides of nitrogen emission index and smoke number are consistent in both power settings tested. The carbon monoxide levels at maximum A/B were greater than expected. The values were beyond the normal range of the MEL's instrumentation. A special calibration of the high concentration carbon monoxide analyzer was performed using two calibration gases borrowed from Pratt and Whitney. The carbon monoxide values measured at maximum A/B were consistent for all sample points except those on the outer edge of the exhaust plume. Checks of a similar instrument's electrical response indicates that the output electrical signal was still well below the saturation level.

# SECTION III

## DISCUSSION OF RESULTS

### 3.0 Emission Factors

The best estimates F-100-P-100 minimum and maximum A/B engine emission factors have been determined from the emission measurements. Gaseous emissions factors and smoke numbers (Table 2) are means for the three engines tested. In addition, J-79 reactive plume model factors are presented (Reference 2). The "A/B reactive plume" emission factors should be used where indicated. They are an approximation of the actual A/B pollutant emissions entering the atmosphere and are discussed in 3.2.

TABLE 2. F-100-P-100 ENGINE EMISSION FACTORS

Gaseous Emissions			
Pollutant	Mode	Emission Index	Emission Rate
		Grams Pollutant Per Kilograms of Fuel	Kilograms Pollutant Per Hour
Total Hydro- carbons	Min A/B*	7.4 (0.1)	39.0 (0.05)
	Max A/B*	3.6 (0.01)	76.2 (0.21)
Carbon Monoxide	Min A/B*	25.1 (4.06)	132.9 (21.53)
	Max A/B*	140.4 (4.06)	2929.9 (84.73)
Total Oxides of Nitrogen	Min A/B*	22.3	118.3
	Max A/B*	5.6	116.4
Parameter	Mode	Smoke Number	
Smoke Number	Min A/B*	14	
	Max A/B*	6	
*Average Fuel Flow Rates	Min A/B	5.8 kg/s	
	Max A/B	1.4 kg/s	

( ) Indicates a pollutant emission factor corrected for a A/B plume reaction (see 3.2).

### 3.1 Analysis of Emission Factors

The A/B exhaust plane measurements must be analyzed very carefully for use in emission calculations. The afterburner has a significant effect on the pollutant emissions especially carbon monoxide and hydrocarbon. Further reaction of these two pollutants occurs in the plume downstream of the engine exhaust nozzle (Reference 2). Both pollutants are reduced by chemical reaction at a distance aft of the exhaust plane. There the carbon monoxide and hydrocarbon steady-state emissions entering the atmosphere are much lower than the exhaust emissions reported here.

To estimate carbon monoxide and hydrocarbon steady-state emission factors, previous J-79-G-15 and J-85-G-3 A/B reactive plume tests and models can be used (Reference 2). The results of computations based on these engines are presented in Section II. The emission factors are estimates for a point six meters aft of the engine exhaust plane where steady-state emission conditions exist. The minimum A/B carbon monoxide emissions (25 kg/s) are probably higher than maximum A/B (3.6 kg/s) because of partial oxidation of the emitted hydrocarbons at minimum A/B. At maximum A/B, with a near stoichiometric fuel-air ratio, rapid oxidation of carbon monoxide occurs in the plume along with complete consumption of hydrocarbons. The high maximum A/B carbon monoxide exhaust plane emissions are probably caused by equilibrium dislocation and localized oxygen depletion (Reference 2).

Oxides of nitrogen do not significantly react in the plume (Reference 2). Thus, the exhaust plane oxides of nitrogen measurements can be used as emission factors. The decrease in SN from military (SN = 31) (Reference 1) to maximum A/B (SN = 6) is caused by the combustion of smoke particles in the afterburner flame.

The F-100-P-100 exhaust emission factors should be confirmed using an A/B reactive plume model or downstream measurements. In the absence of this validation, the carbon monoxide and hydrocarbon emissions indicated in Section II should be used for F-100-P-100 emission calculations. This will probably lead to a high emission estimate for carbon monoxide because the F-100's combustor and A/B temperatures are higher than those of the J-79.

#### REFERENCES

1. Souza, A. F., and Daley, P. S., "US Air Force Turbine Engine Emission Survey - Volume I", CEEDO-TR-78-3, August 1978.
2. Lyon, T. F., Colley, W. C., Kenworthy, M. J., and Bahr, D. W., "Development of Emissions Measurement Techniques for Afterburning Engines," AFAPL-TR-75-52, October 1975.



**APPENDIX A**  
**MODEL SUMMARIES**

SCOTT ENVIRONMENTAL TECHNOLOGY INC.  
USAF TURBINE ENGINE EMISSIONS INVENTORY  
ENGINE MODEL SUMMARY REPORT

SET 1628-051-1077

REPORT DATE 10/24/77  
USAF CONTRACT F0635-77-0216

ENGINE MODEL : F-100

TEST LOCATION : P + W, FL.

ENGINE 1, PAGE 1

\*\*\*\*\* CATEGORY A TESTS ONLY \*\*\*\*\*

EXHAUST MASS EMISSION INDICES :

PARAM	TEST MODE	NO. OBS	# / 1000 FUEL				# / HR						
			MAX VALUE	MIN VALUE	MEAN	STND DEV	COEF VAR	NO. OBS	MAX VALUE	MIN VALUE	MEAN	STND DEV	COEF VAR
TMC		0						0					
		0						0					
		0						0					
	MIN. A/B	3	9.77	3.92	7.36	3.060	41.55	3	113.76	46.65	65.74	34.896	40.70
CO	MAX. A/B	3	5.34	0.60	3.65	2.646	72.49	3	252.64	25.71	172.25	127.10	73.57
		0						0					
		0						0					
		0						0					
NOX	MIN. A/B	3	28.46	19.07	25.07	5.208	20.78	3	331.4	227.0	292.4	56.96	19.48
	MAX. A/B	3	154.26	115.35	140.39	21.72	15.47	3	7337.3	4979.0	6494.8	1315.47	20.25
		0						0					
		0						0					
NO	MIN. A/B	3	25.01	19.44	22.31	2.789	12.50	3	297.80	226.36	261.09	35.752	13.69
	MAX. A/B	3	5.66	5.52	5.58	0.072	1.29	3	269.05	238.37	256.80	16.252	6.33
		0						0					
		0						0					
NO2	MIN. A/B	3	16.71	12.11	14.32	2.305	16.10	3	198.93	140.96	167.60	29.260	17.46
	MAX. A/B	3	4.22	4.02	4.13	0.103	2.48	3	198.48	173.42	189.87	14.254	7.51
		0						0					
		0						0					
SOX	MIN. A/B	3	8.35	7.33	8.00	0.578	7.22	3	98.87	85.40	93.44	7.132	7.63
	MAX. A/B	3	1.50	1.36	1.45	0.081	5.57	3	71.33	64.53	66.93	7.810	5.69
		0						0					
		0						0					
	MIN. A/B	3	25.60	18.41	21.01	3.984	18.96	3	25.60	18.41	21.01	3.984	18.96
	MAX. A/B	3	94.87	75.61	82.17	11.001	13.39	3	94.87	75.61	82.17	11.001	13.39
		0						0					
		0						0					

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SCOTT ENVIRONMENTAL TECHNOLOGY INC.  
USAF TURBINE ENGINE EMISSIONS INVENTORY  
ENGINE MODEL SUMMARY REPORT

SET 1628-001-1077

REPORT DATE 10/24/77  
USAF CONTRACT F08635-77-0216

ENGINE MODEL : F-100

TEST LOCATION : P + M, FL.

ENGINE 1, PAGE 2

\*\*\*\*\* CATEGORY A TESTS ONLY \*\*\*\*\*

MEASURED FUEL FLOW & SMOKE NUMBER :

TEST MODE	MEAS. FUEL FLOW - L/HR						SMOKE NUMBER					
	NO. OBS	MAX VALUE	MIN VALUE	MEAN	STND DEV	% COEF VAR	NO. OBS	MAX VALUE	MIN VALUE	MEAN	STND DEV	% COEF VAR
	0						0					
	0						0					
	0						0					
MIN. A/B	3	11905	11520	11690	196.4	1.68	3	16.75	11.91	14.50	2.437	16.81
MAX. A/B	3	47565	43165	46010	2467.4	5.36	3	7.00	5.64	6.44	0.709	11.02

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**APPENDIX B**  
**INDIVIDUAL ENGINE TEST REPORTS**

SCOTT ENVIRONMENTAL TECHNOLOGY INC.  
USAF TURBINE ENGINE EMISSIONS INVENTORY  
INDIVIDUAL ENGINE TEST REPORT

SET 1628-001-1077

REPORT DATE 10/24/77  
USAF CONTRACT F06035-77-0216

SCOTT TEST NUMBER 1, TYPE A

TEST DATE : 8 / 3 / 77

ENGINE 1, NUMBER 1

ENGINE TYPE & MODEL : F-100  
ENGINE SERIAL # : P60160  
TOTAL ENGINE TIME : 670 HRS.  
PERFORMANCE TEST RESULTS : PASS

TEST LOCATION : PLWA-FLA.  
TEST CELL NUMBER : A2  
TEST CELL OPERATOR : MB  
SCOTT SUPERVISOR : ZGT  
INSTRUMENT OPERATOR : PR  
SMOKE OPERATOR : FL

AIR FLOW MEASUREMENT METHOD : BELLMOUTH

TEST ENVIRONMENTAL CONDITIONS :

SAMPLE LINE :  
FLOW RATE : 23 LPM  
TEMPERATURE : 300 DEG.F  
LENGTH : 100 FT.

FUEL ANALYSIS :

TEST TIME (REL-TIME) : START FINISH  
INLET AIR TEMP (DEG.F) : 1200 1500  
ATMOSPHERIC PRESS (IN.HG) : 92.0 90.0  
RELATIVE HUMIDITY (%) : 30.06 30.02  
INLET AIR HUMIDITY : 55 57  
16M H2O/GM DRY AIR : 0.0178 0.0173

SAMPLE # : 1  
TYPE : JP-4  
WT.2 CARBON : 85.65  
WT.2 HYDROGEN : 14.92  
WT.2 SULFUR : 0.11  
H/C RATIO-ATP : 2.02  
C/H RATIO-MASS : 5.94

TEST MODE	RATED POWER	THRUST	FUEL FLOW	AIR FLOW	F/A	F/A	EPR	THC	CO	CO2	NOX	NO	NO2	SW	SPOKE
			8/HR	8/HR	ACT	CALC		PPMC	PPM	%	PPM	PPM	PPM	PPM	W/A
MIN. A/B	12945	11695	759600	0.015	0.012	0.012	1.785	204.08	340.4	2.33	141.57	0.17	53.41	16.75	0.0232
MAX. A/B	19185	93165	759600	0.057	0.061	0.061	1.781	61.35	6803.8	11.08	190.30	144.27	54.03	6.67	0.0231

EXHAUST MASS EMISSION INDICES :

	THC	CO	CO2	MDX	NO	NO2	THC	CO	CO2	NOX	NO	NO2	MDX	SW	SPOKE
							PPMC	PPM	%	PPM	PPM	PPM	PPM	PPM	W/A
MIN. A/B	9.77	28.46	3062	19.44	12.11	7.33	113.76	331.4	35654	226.30	140.98	65.40	25.60		
MAX. A/B	0.60	115.35	2950	5.52	4.02	1.50	25.71	4970.0	127353	230.37	173.42	64.95	94.87		

\*\* AVERAGE CONCENTRATION AND MASS EMISSION DATA ARE AREA-WEIGHTED.

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SCOTT ENVIRONMENTAL TECHNOLOGY INC.  
USAF TURBINE ENGINE EMISSIONS INVENTORY  
INDIVIDUAL ENGINE TEST REPORT

SET 1628-001-1077

REPORT DATE 10/26/77  
USAF CONTRACT F08635-77-0216

SCOTT TEST NUMBER 2, TYPE A

TEST DATE : 8/ 9/77

ENGINE 1, NUMBER 2

ENGINE TYPE & MODEL : F-100  
ENGINE SERIAL # : 9680325  
TOTAL ENGINE TIME : 305 HRS.  
PERFORMANCE TEST RESULTS : PASS

TEST LOCATION : PFWA-FLA.

TEST CELL NUMBER : A2

TEST CELL OPERATOR : MB

SCOTT SUPERVISOR : 261

INSTRUMENT OPERATOR : PR

SMOKE OPERATOR : FL

AIR FLOW MEASUREMENT METHOD : BELLMOUTH

TEST ENVIRONMENTAL CONDITIONS :

SAMPLE LINE :  
FLOW RATE : 73 LPM  
TEMPERATURE : 300 DEG.F  
LENGTH : 100 FT.

FUEL ANALYSIS :  
SAMPLE # : 2

TEST TIME (MIN-TIME) : START FINISH  
INLET AIR TEMP. (DEG.F) : 900 1200  
ATMOSPHERIC PRESS. (IN.MG) : 84.0 93.0  
RELATIVE HUMIDITY (%) : 30.03 30.05  
INLET AIR HUMIDITY : 71 54  
(GM M20/GM DRY AIR) : 0.0178 0.0180

TYPE : JP-4  
WT.% CARBON : 85.70  
WT.% HYDROGEN : 14.42  
WT.% SULFUR : 0.08  
H/C RATIO-ATM : 2.02  
C/M RATIO-MASS : 5.94

TEST MODE	RATED POWER	THRUST	FUEL FLOW	AIR FLOW	F/A ACT	F/A CALC	EPR	TMC	CO	CO2	NOX	NO	NO2	SM	W/A
MIN. A/B	13600	11520	78800	0.015	0.014	1.717	214.48	405.3	2.86	200.58	126.11	74.47	14.83	0.0231	
MAX. A/B	20500	97300	781200	0.061	0.063	1.694	564.91	9178.6	11.10	205.02	154.72	50.30	5.64	0.0231	

EXHAUST MASS EMISSION INDICES :

	TMC	CO	CO2	FUEL	NOX	NO	NO2	TMC	CO	CO2	NOX	NO	NO2	SM	W/A
MIN. A/B	8.47	27.67	3667	22.49	14.14	8.35	96.80	318.7	35329	259.10	162.90	96.20	18.01		
MAX. A/B	5.34	151.55	2880	5.56	4.20	1.36	252.64	7168.2	136246	263.01	198.48	64.53	75.61		

\*\* AVERAGE CONCENTRATION AND MASS EMISSION DATA ARE AREA-WEIGHTED.

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USAF TURBINE ENGINE EMISSIONS INVENTORY  
INDIVIDUAL ENGINE TEST REPORT

SET 1628-001-1077

REPORT DATE 10/24/77  
USAF CONTRACT F06635-77-0216

SCOTT TEST NUMBER 3, TYPE A

TEST DATE : 8/18/77

ENGINE 1, NUMBER 3

ENGINE TYPE & MODEL : F-100

ENGINE SERIAL # : P680301

TOTAL ENGINE TIME : 130 HRS.

PERFORMANCE TEST RESULTS : PASS

AIR FLOW MEASUREMENT METHOD : BELLMOUTH

TEST ENVIRONMENTAL CONDITIONS :

TEST TIME (MIN.-TIME) : START FINISH  
INLET AIR TEMP. (DEG.F) : 1000 1400  
ATMOSPHERIC PRESS. (IN.HG) : 86.0 92.0  
RELATIVE HUMIDITY (%) : 30.04 30.01  
INLET AIR HUMIDITY : 72 54  
(6M H2O/GM DRY AIR) : 0.0192 0.0173

SAMPLE LINE :  
FLOW RATE : 23 LPM  
TEMPERATURE : 300 DEG.F  
LENGTH : 100 FT.

FUEL ANALYSIS :

SAMPLE # : 3  
TYPE : JP-4  
W1.2 CARBON : 85.75  
W1.2 HYDROGEN : 14.43  
W1.2 SULFUR : 0.08  
M/C RATIO-ATH : 2.02  
C/H RATIO-MASS : 5.94

TEST LOCATION : PLWA-FLA.

TEST CELL NUMBER : A2

TEST CELL OPERATOR : MB

SCOTT SUPERVISOR : Z61

INSTRUMENT OPERATOR : DO

SMOKE OPERATOR : FL

TEST MODE	RATED POWER	THRUST #	FUEL FLOW #/HR	AIR FLOW #/HR	F/A ACT	F/A CALL	EPR	TMC PPHC	CO PPM	CO2 %	NOX PPM	NO PPM	NO2 PPM	SMOKE ---4
MIN. A/B		14065	11905	784800	.015	.015	1.822	107.62	299.8	3.10	239.50	152.98	79.52	11.91 0.0231
MAX. A/B		20675	47565	784800	.061	.067	1.347	1059.53	9843.5	11.76	204.86	155.50	49.36	7.00 0.0232

EXHAUST MASS EMISSION INDICES :

	THC	CO	CO2	NOX	FUEL	NO	NO2	THC	CO	CO2	NOX	NO	NO2	SOX
MIN. A/B	3.92	19.07	3093	25.01	8.31	16.71	8.31	46.65	227.0	36817	297.80	198.93	98.87	19.03
MAX. A/B	5.01	154.26	2877	5.66	1.50	4.16	1.50	238.39	7337.3	136850	269.05	197.72	71.33	76.03

\*\* AVERAGE CONCENTRATION AND MASS EMISSION DATA ARE MASS-WEIGHTED.

3FIN

STOP REPORT

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**APPENDIX C**  
**MASS DATA CALCULATIONS**



SCOTT ENVIRONMENTAL TECHNOLOGY INC.  
USAF TURBINE ENGINE EMISSIONS INVENTORY  
EDIT REPORT - MASS DATA CALCULATIONS

SET 1628-COI-1077

REPORT DATE 10/24/77  
USAF CONTRACT F08635-77-0216

\*\*\*\*\* S T A R T R U N I \*\*\*\*\*

ENGINE TYPE : F-100 IAT : 91.0 DEG.F FUEL : 1 - JP-4 ENGINE SN : P680160 TEST TYPE : A  
BP : 30.04 IN.HG FUEL SULFUR : .11

\*\*\*\*\* MODE 4 - MIN. A/B (THRUST = 12945 LBS) \*\*\*\*\*

PT1 = .00 IN.H2O PT2 = 2.25 IN.H2O PS2 = 44.23 IN.H2O PT3 = .00 PSIG ACTUAL F/A RATIO = .015  
EPR = 1.785 FUEL FLOW = 11645.8 LBS/HR AIR FLOW = 759600.8 LBS/HR

SAMPLE POINT NO	LOCATION	TEMP. DEG.F	PTOT PSIA	DENS. (RH01)	EXH.VEL FT/SEC	MASS FL. (RH01V)	THC PPMC	CO PPM	CO2 %	NOX PPM	NO PPM	NO2 PPM	SMOKE S/N	W/A
1	30-12.7	232.3	18.6	.0019	729.06	1.3961	70.73	108.99	.81	43.99	26.60	17.39	10.00	.0232
2	30-9.8	696.9	30.8	.0013	1623.13	2.1424	164.61	383.52	2.92	157.28	98.45	58.83	23.00	.0232
3	30-5.7	1256.8	30.5	.0009	1969.26	1.7327	112.29	408.06	4.35	277.03	261.39	75.64	28.00	.0232
4	30-5.5	1267.7	31.5	.0009	2014.70	1.7768	370.48	579.06	3.36	209.69	118.75	90.94	23.00	.0232
5	30-9.8	742.7	29.9	.0013	1624.85	2.0443	354.13	425.10	1.78	104.81	42.21	62.60	11.00	.0232
6	30-12.5	290.4	19.4	.0018	822.77	1.4708	166.47	144.46	.68	39.21	16.82	22.39	10.00	.0232
7	30-12.7	297.7	25.6	.0019	1150.39	2.2058	205.06	204.59	.97	57.43	29.31	28.12	19.00	.0233
8	30-9.9	972.6	30.7	.0011	1804.45	1.9136	242.70	429.01	2.44	128.45	75.94	62.46	14.00	.0232
9	30-5.9	1351.7	30.4	.0008	2027.68	1.6401	19.06	144.47	4.51	321.56	262.44	59.12	30.00	.0232
10	30-5.7	1110.2	30.7	.0010	1890.04	1.8251	228.08	688.04	3.56	200.47	114.96	85.51	21.00	.0232
11	30-9.7	553.5	30.7	.0015	1515.34	2.2662	248.82	256.26	1.15	68.11	31.22	36.89	10.00	.0232
12	30-12.6	51.5	15.4	.0025	273.00	.6701	162.49	70.77	.33	22.81	16.74	6.07	4.00	.0232
13	30-.0	1149.9	30.4	.0009	1923.21	1.7662	3.24	65.81	3.77	306.57	254.58	51.99	31.00	.0232
AVERAGE : NUM.		735.3	27.0	.0014	1453.73	1.7628	195.46	320.36	2.24	136.74	66.24	50.50	16.75	.0232
MASS-WGT(1)							204.08	340.42	2.33	141.57	84.17	53.41		

CALCULATED F/A RATIOS FOR ABOVE AVERAGE CONCENTRATIONS : AREA-WGTD.(NUM) = .011, MASS-WGTD. = .012

MASS EMISSIONS :	THC	CO	CO2	NOX	NO	NO2	SOX
	LBS/1000	LBS/1000	LBS/1000	LBS/1000	LBS/1000	LBS/1000	LBS/1000
AREA-WGTD.	9.75	113.51	27.90	3063.	12.34	143.66	7.22
MASS-WGTD.	9.77	113.76	28.46	3062.	12.11	140.98	7.33
							85.40
							25.60
							25.60

\* MID-POINT - NOT INCLUDED IN AVERAGES

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SCOTT ENVIRONMENTAL TECHNOLOGY INC.  
USAF TURBINE ENGINE EMISSIONS INVENTORY  
EDIT REPORT - MASS DATA CALCULATIONS

SER 1628-001-1077

REPORT DATE 10/24/77  
USAF CONTRACT F08635-77-C216

\*\*\*\*\* C O M M E N T S \*\*\*\*\*

ENGINE TYPE : F-100

ENGINE SN : 66A7160

TEST TYPE : A

BP : 30.04 IN-HG

IAT : 91.0 DEG.F

FUEL : 1 - JP-4

W/C RATIO(CATMI) : 2.02

FUEL SULFUR : .113

\*\*\*\*\* MODE S - MAX. A/B \*\*\*\*\*

PT1 =

PT2 =

PT3 =

PT5/7 =

ACTUAL F/A RATIO =

PT1 =

FUEL FLOW =

PS2 =

PSIG

ACTUAL F/A RATIO =

CPR =

FUEL FLOW =

PS2 =

PSIG

ACTUAL F/A RATIO =

\* SAMPLE POINT \*

TEMP.

PILOT

DENS.

EXM.VEL

MASS FL.

THC

CO

CO2

NOX

NO

NO2

SMOKE

NO LOCATION

DEG.F

PSIA

HR/HR

FT/SEC

HR/HR

PPMC

PPM

PPM

PPM

PPM

PPM

PPM

1 30.1-14.3

0

30.9

0.0000

0.0000

0.0000

22.91

1842.79

10.18

97.57

59.64

37.93

26.00

2 30.1-11.0

0

32.7

0.0000

0.0000

426.24

11861.57

11.63

201.05

166.86

34.17

10.00

0.00

3 30.1-6.4

0

30.7

0.0000

0.0000

20.54

11208.86

13.64

320.32

251.76

64.56

6.00

0.00

4 30.1-6.2

0

30.8

0.0000

0.0000

16.86

6818.22

13.53

331.22

246.32

64.90

7.00

0.00

5 30.1-10.8

0

32.2

0.0000

0.0000

14.39

5899.44

13.10

174.84

121.93

52.91

6.00

0.00

6 30.1-14.1

0

25.1

0.0000

0.0000

66.37

1331.32

4.54

54.02

19.12

34.90

3.00

0.00

7 30.1-14.3

0

28.7

0.0000

0.0000

56.21

1680.64

6.64

70.36

36.25

24.11

4.00

0.00

8 30.1-14.3

0

32.2

0.0000

0.0000

28.12

11944.06

13.06

297.07

220.14

66.93

5.00

0.00

9 30.1-14.3

0

30.2

0.0000

0.0000

43.42

5083.79

13.18

313.51

235.21

78.30

2.06

0.00

10 30.1-14.3

0

30.2

0.0000

0.0000

7.09

4924.51

13.16

308.69

231.76

76.91

3.00

0.00

11 30.1-10.9

0

32.2

0.0000

0.0000

5.43

6253.32

12.12

160.07

107.95

52.12

4.00

0.00

12 30.1-14.1

0

28.7

0.0000

0.0000

28.47

796.85

7.48

50.86

24.24

26.62

4.00

0.00

13 30.1-14.1

0

30.4

0.0000

0.0000

18.57

4150.33

13.71

316.44

240.71

75.73

4.00

0.00

AVERAGE : NUM.

0

30.4

0.0000

0.0000

61.35

6803.76

11.08

198.30

144.27

54.03

6.67

0.00

MASS-WGMD.

0

30.4

0.0000

0.0000

61.35

6803.76

11.08

198.30

144.27

54.03

6.67

0.00

MASS-WGMD.

0

30.4

0.0000

0.0000

61.35

6803.76

11.08

198.30

144.27

54.03

6.67

0.00

CALCULATED F/A RATIOS FOR ABOVE AVERAGE CONCENTRATIONS : AREA-WGMD.(NUM) = .061 , MASS-WGMD. = .000

MASS EMISSIONS :

0

THC

CO

CO2

NOX

NO

NO2

SOX

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

SCOTT ENVIRONMENTAL TECHNOLOGY INC.  
USAF TURBINE ENGINE EMISSIONS INVENTORY  
EDIT REPORT - MASS DATA CALCULATIONS

SET 1620-U01-1077

REPORT DATE 10/24/77  
USAF CONTRACT F08635-77-C216

ENGINE TYPE : F-100  
BP 30.04 IN.HG  
IAT : 88.5 DEG.F  
ENGINE SN : P68C325  
FUEL : # 2 -JP-4  
H/C RATIO(ATM) : 2.02  
TEST TYPE : A  
FUEL SULFUR : .06 +

\*\*\*\*\* MODE # - MIN. A/R (THRUST = 13600 # ) \*\*\*\*\*

PT1 = .00 IN.H2O  
EPR = 1.717  
PT2 = 2.00 IN.H2O  
FUEL FLOW = 11520. #/HR  
PS2 = 51.63 IN.H2O  
AIR FLOW = 784800. #/HR  
PT3 = .0 PSIG  
ACTUAL F/A RATIO = .015

SAMPLE POINT #	NO	LOCATION	TEMP. DEG.F	PTOT PSIA	DENS. (RH0)	EXH.VEL FT/SEC	MASS FL. (RH0*V)	TMC PPMC	CO PPM	CO2 %	NOX PPM	NO PPM	NO2 PPM	SMOKE	W/A
1	30	-11.1	689.4	32.1	.0014	1654.35	2.2338	230.61	318.83	1.85	122.48	62.76	59.70	13.00	.0231
2	30	-8.6	929.6	35.2	.0011	1924.34	2.1909	250.54	553.88	3.28	210.39	117.65	92.74	16.00	.0231
3	30	-4.9	1377.5	35.4	.0009	2223.06	1.9031	64.52	387.72	4.71	356.15	272.67	83.48	25.00	.0231
4	30	5.1	1410.1	35.1	.0008	2233.35	1.8733	114.07	407.10	4.41	324.96	234.95	90.01	22.00	.0231
5	30	8.8	1032.2	34.7	.0011	1980.45	2.0877	321.71	570.56	2.80	171.09	76.65	94.44	14.00	.0231
6	30	11.2	465.8	22.7	.0015	1134.51	1.7162	189.22	227.97	1.29	79.31	35.92	43.39	8.00	.0231
7	30	-11.1	655.7	34.1	.0014	1688.55	2.3805	406.79	502.02	1.86	126.09	54.01	72.08	12.00	.0231
8	30	-8.6	1256.2	34.8	.0009	2128.88	1.9458	259.14	686.25	3.83	250.64	143.35	107.29	14.00	.0231
9	30	-5.0	1371.5	35.9	.0009	2235.00	1.9270	13.30	125.96	4.48	365.96	318.74	67.22	23.00	.0231
10	30	5.2	1219.0	34.9	.0009	2108.52	1.9726	231.26	657.89	4.09	272.20	163.25	108.95	21.00	.0231
11	30	8.7	599.0	26.2	.0014	1387.71	1.9075	266.22	229.97	1.12	76.26	31.83	44.43	7.00	.0231
12	30	11.1	390.5	22.5	.0016	1076.58	1.7699	158.38	97.21	.56	37.93	18.01	19.92	3.00	.0231
13	30	.1	1269.7	34.4	.0009	2124.61	1.9203	3.61	68.43	4.02	361.31	308.82	52.49	28.00	.0231
AVERAGE : NUM.			949.3	32.0	.0012	1814.61	1.9923	208.81	397.11	2.86	201.12	127.48	73.64	14.83	.0231
MASS-WGTD.								214.96	405.30	2.86	200.58	126.11	74.97		

CALCULATED F/A RATIOS FOR ABOVE AVERAGE CONCENTRATIONS : AREA-WGTD.(NUM) = .014 , MASS-WGTD. = .014

MASS EMISSIONS :	TMC #/1000H	CO #/1000H	CO2 #/1000H	NOX #/1000H	NO #/1000H	NO2 #/1000H	SOX #/HR
AREA-WGTD.	8.17	94.11	27.13	312.5	3068.	22.57	260.01
MASS-WGTD.	8.40	96.80	27.67	318.7	35329.	22.49	259.10
						14.14	162.90
						14.31	164.81
						8.26	95.20
						8.35	96.20
							18.41
							18.41

\* MID-POINT - NOT INCLUDED IN AVERAGES

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USAF TURBINE ENGINE EMISSIONS INVENTORY  
EDIT REPORT - MASS DATA CALCULATIONS

\*\*\*\*\* CONT. RUN \*\*\*\*\*

ENGINE TYPE = F-100  
BP = 30.04 IN.HG  
IAT = 88.5 DEG.F  
ENGINE SN = P040325  
FUEL = 2 - JP-4  
W/C RATIO(ATM) = 2.02  
TEST TYPL = A  
FUEL SULFUM = .0E3

\*\*\*\*\* MODE 5 - MAX. A/B (THRUST = 20500 #) \*\*\*\*\*

PT1 = -00 IN.H2O  
EPR = 1.699  
PT2 = 2.10 IN.H2O  
PS2 = 51.33 IN.H2O  
PT3 = .L PSIG  
PT5/7 = 20.6 IN.HG  
AIR FLOW = 47300. #/HR  
ACTUAL F/A RATIO = .0E1

* SAMPLE POINT NO	TEMP. DEG.F	PILOT PSIA	EXH. VEL. FT/SEC	MASS FL. (RHO*V)	THC PPM	CO PPM	CO2 %	NOX PPM	WU PPM	W/A	SMOKE
1	30.14.1	0	31.4	.0000	15.22	7569.55	12.44	129.07	81.35	47.74	.0231
2	30.10.9	0	33.2	.0000	4445.85	10703.45	9.66	160.61	139.72	20.84	.0231
3	30.6.3	0	31.3	.0000	917.08	10706.24	11.84	285.66	216.64	69.02	.0231
4	30.6.4	0	31.1	.0000	113.42	10698.93	12.54	235.84	225.05	10.83	.0231
5	30.11.0	0	33.5	.0000	511.24	10704.31	10.94	212.31	162.63	49.68	.0231
6	30.14.1	0	29.6	.0000	2.25	3942.94	8.19	15.18	40.70	44.48	.0231
7	30.14.0	0	33.2	.0000	418.78	10701.99	11.19	158.67	115.01	43.66	.0231
8	30.10.8	0	32.3	.0000	37.37	10703.07	12.84	318.43	254.04	63.74	.0231
9	30.6.3	0	31.2	.0000	9.73	10706.40	12.44	310.62	250.71	59.91	.0231
10	30.6.4	0	31.3	.0000	74.09	10703.85	12.66	311.72	245.50	66.22	.0231
11	30.14.1	0	32.7	.0000	131.67	10699.09	13.19	158.71	112.58	48.13	.0231
12	30.14.1	0	20.2	.0000	102.26	2242.83	4.70	33.01	3.61	29.34	.0231
13	30.1	0	31.1	.0000	5.84	10536.98	13.40	320.60	250.62	69.98	.0231
AVERAGE	NUM. MASS-WGHTD.	0	30.9	.0000	564.91	9173.56	11.10	205.02	154.72	50.30	.0231

CALCULATED F/A RATIOS FOR ABOVE AVERAGE CONCENTRATIONS : AREA-WGHTD.(NUM) = .063, MASS-WGHTD. = .030

MASS EMISSIONS :

	THC	CO	CO2	NOX	NO	NO2	SOX
8/1000#	8/HR	8/1000#	8/HR	8/1000#	8/HR	8/1000#	8/HR
AREA-WGHTD. MASS GHTD.	5.34	151.55	2860.13	5.56	4.20	1.36	75.61
	.00	.00	.00	.00	.00	.00	.00

\* MID-POINT - NOT INCLUDED IN AVERAGES

\*\*\*\*\* END \*\*\*\*\*



REPORT DATE 10/24/77  
USAF CONTRACT F08635-77-G216

SET 1628-001-1077

SCOTT ENVIRONMENTAL TECHNOLOGY INC.  
USAF TURBINE ENGINE EMISSIONS INVENTORY  
COIT REPORT - MASS DATA CALCULATIONS

\*\*\*\*\* CONT. RUN 3 \*\*\*\*\*

ENGINE TYPE : F-100  
BP : 30.02 IN-HG  
ENGINE SN : 608C301  
FUEL : 3 - JP-4  
H/C RATIO(LBS) : 2.02  
FUEL SULFUR : .08 %  
EST TYPE : A

\*\*\*\*\* MODE 5 - MAX. A/B (THRUST = 20675 LBS) \*\*\*\*\*

PT1 = .00 IN-H2O  
FUEL FLOW = 1.807  
PT2 = 1.80 IN-H2O  
FUEL FLOW = 47565. LBS/HR  
PT3 = 53.74 IN-H2O  
FUEL FLOW = 78400. LBS/HR  
PS2 = 53.74 IN-H2O  
ACTUAL F/A RATIO = .061

SAMPLE NO	POINT LOCATION	TEMP. DEG.F	PISTON PSIA	DEMS. (PHOS)	EXH-YELL FT/SLC	MASS FL. (PHOS-VI)	TMC PPMC	CO PPM	CO2 %	NOX PPM	NO PPM	NO2 PPM	SHORE SN	W/A
1	30, -13.9	2787.8	32.7	.0005	2835.61	1.3195	90.36	10799.24	12.28	164.25	123.35	40.40	7.00	.0232
2	30, -10.7	2759.6	33.1	.0005	2842.70	1.3367	2121.38	10821.21	10.56	253.92	198.50	55.42	11.00	.0232
3	30, -6.2	3687.7	27.3	.0003	2853.55	.9877	291.47	10843.73	12.10	312.71	237.42	75.29	7.00	.0232
4	30, 6.2	3812.7	31.1	.0003	3164.58	1.0960	214.89	10865.90	12.38	302.34	228.94	73.35	5.00	.0232
5	30, 10.9	3024.2	33.1	.0004	2959.06	1.2643	3122.49	10885.55	10.46	118.31	110.18	8.13	10.00	.0232
6	30, 14.0	3785.9	29.6	.0003	3056.45	1.0531	7.02	4130.34	12.00	96.34	43.06	53.28	2.00	.0232
7	30, -14.9	.0	33.1	.0000	.00	.0000	29.37	10903.00	12.77	156.03	106.99	49.84	17.00	.0232
8	30, -11.6	.0	30.7	.0000	.00	.0000	44.86	10908.40	11.96	326.07	233.56	92.51	6.00	.0232
9	30, -7.2	.0	30.7	.0000	.00	.0000	23.14	10918.91	12.75	334.19	258.77	75.42	4.00	.0232
10	30, 5.4	.0	31.2	.0000	.00	.0000	23.33	10938.02	13.14	339.42	264.99	74.43	10.00	.0232
11	30, 10.0	.0	32.0	.0000	.00	.0000	172.67	10937.74	13.19	158.22	98.85	59.37	3.00	.0232
12	30, 13.0	.0	19.4	.0000	.00	.0000	59.20	3387.24	3.49	34.44	3.86	30.58	2.00	.0232
13	30, .1	3596.3	30.6	.0004	3051.38	1.1107	63.42	10841.42	12.73	311.61	242.98	68.63	5.00	.0232
AVERAGE	NUM. MASS-WEIGHTED.	3309.7	30.3	.0004	2952.11	1.1794	550.05	9654.95	11.51	216.82	159.04	57.38	7.00	.0232

CALCULATED F/A RATIOS FOR ABOVE AVERAGE CONCENTRATIONS : AREA-WEIGHTED (NUM) = .065 \* MASS-WEIGHTED = .067

MASS EMISSIONS :	TMC LBS/1000 LBS FUEL	CO LBS/1000 LBS FUEL	CO2 LBS/1000 LBS FUEL	NOX LBS/1000 LBS FUEL	NO LBS/1000 LBS FUEL	NO2 LBS/1000 LBS FUEL	SOX LBS/HR
AREA-WEIGHTED.	5.01	238.39	154.26	7337.3	2877.136850	5.66	289.05
MASS-WEIGHTED.	9.41	447.74	152.71	7263.9	2867.136391	5.22	248.32

\* MID-POINT - NOT INCLUDED IN AVERAGES

\*\*\*\*\* END RUN 3 \*\*\*\*\*

OFIN

STOP MASS

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APPENDIX D  
ENGINE EDIT REPORTS

SCOTT ENVIRONMENTAL TECHNOLOGY INC.  
USAF TURBINE ENGINE EMISSIONS INVENTORY  
EDIT REPORT - ENGINE TEST DATA

SET 1020-001-1077

REPORT DATE 10/24/77  
USAF CONTRACT F06635-77-U216

SCOTT TEST NUMBER 1, TYPE A

TEST DATE : 8/3/77

ENGINE 1, NUMBER 1

ENGINE TYPE & MODEL : F-100

ENGINE SERIAL # : P600160

TOTAL ENGINE TIME : 670 HRS.

PERFORMANCE TEST RESULTS : PASS

AIR FLOW MEASUREMENT METHOD : BELLMOUTH

TEST LOCATION : PLMA-FLA.

TEST CELL NUMBER : A2

TEST CELL OPERATOR : MB

SCOTT SUPERVISOR : ZGT

INSTRUMENT OPERATOR : PR

SMOKE OPERATOR : FL

TEST ENVIRONMENTAL CONDITIONS :

TEST TIME (MIN. TIME) : START  
INLET AIR TEMP. (DEG. F) : 1200  
ATMOSPHERIC PRESS. (IN. HG) : 92.0  
RELATIVE HUMIDITY (%) : 30.06  
INLET AIR HUMIDITY : 55  
16M H2O/GM DRY AIR : 0.0178 0.0173

SAMPLE LINE :  
FLOW RATE : 23 LPM  
TEMPERATURE : 300 DEG. F  
LENGTH : 100 FT.

FUEL ANALYSIS :  
SAMPLE # : 1  
TYPE : JP-4  
WT. % CARBON : 85.65  
WT. % HYDROGEN : 14.02  
WT. % SULFUR : 0.11  
H/C RATIO-ATM : 2.02  
C/H RATIO-MASS : 5.94

TEST MODE	3	RATED POWER	FUEL FLOW GPM	1	SPEED RPM	2	SPEED RPM	PT1 CITP IN. H2O	PT2 CITP IN. H2O	PT3 COTP PSIG	PT5/PT7 TOTP IN. HG	TT2 CIT DEG. F	TT5/TT7 CET DEG. F	NOZZLE OPEN.
MIN. A/B		12945	11645	9970	12760			2.25	48.23		23.3	91	1713	22
MAX. A/B		19185	43165	9960	12735			1.95	47.79		23.7	92	1710	78

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SCOTT ENVIRONMENTAL TECHNOLOGY INC.  
USAF TURBINE ENGINE EMISSIONS INVENTORY  
EDIT REPORT - ENGINE TEST DATA

SET 1626-001-1077

REPORT DATE 10/24/77  
USAF CONTRACT F06635-17-C216

SCOTT TEST NUMBER 2, TYPE A

ENGINE TYPE & MODEL : F-100  
ENGINE SERIAL B : P680325  
TOTAL ENGINE TIME : 385 HRS.  
PERFORMANCE TEST RESULTS : PASS

AIR FLOW MEASUREMENT METHOD : BELLMOUTH

TEST ENVIRONMENTAL CONDITIONS :

TEST TIME (MIN-TIME) : START 900  
INLET AIR TEMP. (DEG.F) : 84.0  
ATMOSPHERIC PRESS. (IN.HG) : 30.03  
RELATIVE HUMIDITY (%) : 71  
INLET AIR HUMIDITY -  
(GM H2O/GM DRY AIR) : 0.0178 0.0183

FINISH  
1200  
93.0  
30.05  
54

SAMPLE LINE :  
FLOW RATE : 23 LPM  
TEMPERATURE : 300 DEG.F  
LENGTH : 100 FT.

FUEL ANALYSIS :

SAMPLE # : 2  
TYPE : JP-4  
Wt.% CARBON : 85.70  
Wt.% HYDROGEN : 14.42  
Wt.% SULFUR : 0.08  
H/C RATIO-ATP : 2.02  
C/H RATIO-MASS : 5.94

TEST DATE : 8 / 9 / 77

ENGINE 1, NUMBER 2

TEST LOCATION : FLWA-FLA.  
TEST CELL NUMBER : A2  
TEST CELL OPERATOR : MF  
SCOTT SUPERVISOR : Z63  
INSTRUMENT OPERATOR : PR  
SMOKE OPERATOR : FL

TEST MODE	RATED POWER	THRUST	FUEL FLOW	M1 SPEED	M2 SPEED	PT1 CTRP	PT2 CTRP	PT5/PT7 IDTP	PT3 CTRP	PT5/PT7 IDTP	TT2 CTRP	TT5/TT7 NOZZLE
MIN. A/B	13600	13600	11520	10100	12990	2.00	2.00	21.3	AS	21.3	1712	21
MAX. A/B	20500	20500	47500	10095	13005	2.10	2.10	20.6	89	20.6	1715	77

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SCOTT ENVIRONMENTAL TECHNOLOGY INC.  
USAF TURBINE ENGINE EMISSIONS INVENTORY  
EDIT REPORT - ENGINE TEST DATA

SFT 1624-001-1077

REPORT DATE 10/24/77  
USAF CONTRACT F08635-77-0216

SCOTT TEST NUMBER 3, TYPE A

TEST DATE : 6/18/77

ENGINE 1, NUMBER 3

ENGINE TYPE & MODEL : F-100  
ENGINE SERIAL # : P680301  
TOTAL ENGINE TIME : 130 HRS.  
PERFORMANCE TEST RESULTS : PASS

TEST LOCATION : PCWA-FLA.  
TEST CELL NUMBER : A2  
TEST CELL OPERATOR : MP  
SCOTT SUPERVISOR : ZGT  
INSTRUMENT OPERATOR : DO  
SMOKE OPERATOR : FL

AIR FLOW MEASUREMENT METHOD : BELLMOUTH

TEST ENVIRONMENTAL CONDITIONS :

TEST TIME (MIL. TIME) : START 1000 FINISH 1400  
INLET AIR TEMP. (DEG. F) : 86.0 92.0  
ATMOSPHERIC PRESS. (IN. HG) : 30.04 30.01  
RELATIVE HUMIDITY (%) : 72 54  
INLET AIR HUMIDITY :  
1GM M20/GM DRY AIR : 0.0192 0.0173

SAMPLE LINE :  
FLOW RATE : 23 LPM  
TEMPERATURE : 300 DEG. F  
LENGTH : 100 FT.

FUEL ANALYSIS  
SAMPLE # : 3  
TYPE : JP-4  
WT. % CARBON : 85.75  
WT. % HYDROGEN : 14.43  
WT. % SULFUR : 0.08  
W/C RATIO-ATM : 2.02  
C/H RATIO-MASS : 5.94

TEST MODE 2  
MIN. A/B  
MAX. A/B

RATED POWER	FUEL FLOW G/HR	THRUST LBS	N1 SPEED RPM	N2 SPEED RPM
18065	11905	10145	13000	13000
20675	87565	10135	12995	12995

PT1 CDTP IN-M20	PT2 CIUP IN-M20	PS2 CISP IN-M20	PT3 COTP PSIG	PT5/PT7 TOTP IN-MG	T12 CIT DEG. F	T15/T17 NOZZLE EGT DEG. F
2.00	51.92	24.4	87	1709	20	15
1.80	50.74	25.2	90	1708	15	

3FIN

STOP ENGINE

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**APPENDIX E**  
**SMOKE EDIT REPORTS**

SCOTT ENVIRONMENTAL TECHNOLOGY INC.  
USAF TURBINE ENGINE EMISSIONS INVENTORY  
EDIT REPORT -- SAMPLE POINT SMOKE DATA

SET 1626-001-1077

REFUPT DATE 10/24/77  
USAF CONTRACT FOR 635-77-0216

SAMPLE POINT	TEMP DEG.F	PRESS PSIA	FLOW CFM	VOLUME CF	B/A B/SQ.IN	SAMPLE REFL.	PAPER REFL.	SM
401	85.0	14.8	-50	.459	-.0232	90.00	100.00	10.00
402	85.0	14.8	-50	.459	-.0232	77.00	100.00	23.00
403	85.0	14.8	-50	.459	-.0232	74.00	100.00	26.00
404	85.0	14.8	-50	.459	-.0232	77.00	100.00	23.00
405	85.0	14.8	-50	.459	-.0232	89.00	100.00	11.00
406	85.0	14.8	-50	.459	-.0232	90.00	100.00	10.00
407	85.0	14.8	-50	.462	-.0233	81.00	100.00	19.00
408	85.0	14.8	-50	.459	-.0232	86.00	100.00	14.00
409	85.0	14.8	-50	.459	-.0232	70.00	100.00	30.00
410	85.0	14.8	-50	.459	-.0232	79.00	100.00	21.00
411	85.0	14.8	-50	.459	-.0232	90.00	100.00	10.00
412	85.0	14.8	-50	.459	-.0232	96.00	100.00	4.00
413	85.0	14.8	-50	.459	-.0232	65.00	100.00	31.00
501	90.0	14.8	-50	.462	-.0231	74.00	100.00	26.00
502	90.0	14.8	-50	.462	-.0231	90.00	100.00	10.00
503	90.0	14.8	-50	.462	-.0231	94.00	100.00	6.00
504	90.0	14.8	-50	.462	-.0231	93.00	100.00	7.00
505	90.0	14.8	-50	.462	-.0231	94.00	100.00	6.00
506	85.0	14.8	-50	.459	-.0232	97.00	100.00	3.00
507	90.0	14.8	-50	.462	-.0231	96.00	100.00	4.00
508	90.0	14.8	-50	.462	-.0231	95.00	100.00	5.00
509	95.0	14.8	-50	.467	-.0232	96.00	100.00	2.00
510	90.0	14.8	-50	.462	-.0231	97.00	100.00	3.00
511	90.0	14.8	-50	.462	-.0231	96.00	100.00	4.00
512	90.0	14.8	-50	.462	-.0231	96.00	100.00	4.00
513	90.0	14.8	-50	.462	-.0231	96.00	100.00	4.00

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SCOTT ENVIRONMENTAL TECHNOLOGY INC.  
USAF TURBINE ENGINE EMISSIONS INVENTORY  
EDIT REPORT - SAMPLE POINT SMOKE DATA

SET 1626-001-1077

REPORT DATE 10/24/77  
USAF CONTRACT F08635-77-0216

SAMPLE POINT	TEMP DEG.F	PRESS PSIA	FLOW CFM	VOLUME CF	W/A R/SO-IN	SAMPLE REFL.	PAPER REFL.	SN
401	77.0	14.9	.50	.448	.0231	87.00	100.00	13.00
402	77.0	14.9	.50	.448	.0231	84.00	100.00	16.00
403	77.0	14.9	.50	.448	.0231	75.00	100.00	25.00
404	77.0	14.9	.50	.448	.0231	78.00	100.00	22.00
405	77.0	14.9	.50	.448	.0231	86.00	100.00	14.00
406	77.0	14.9	.50	.448	.0231	92.00	100.00	8.00
407	77.0	14.9	.50	.448	.0231	88.00	100.00	12.00
408	77.0	14.9	.50	.448	.0231	86.00	100.00	14.00
409	77.0	14.9	.50	.448	.0231	77.00	100.00	23.00
410	78.0	14.9	.50	.449	.0231	79.00	100.00	21.00
411	78.0	14.9	.50	.449	.0231	93.00	100.00	7.00
412	78.0	14.9	.50	.449	.0231	97.00	100.00	3.00
413	77.0	14.9	.50	.448	.0231	72.00	100.00	28.00
501	78.0	14.9	.50	.449	.0231	96.00	100.00	4.00
502	78.0	14.9	.50	.449	.0231	86.00	100.00	14.00
503	78.0	14.9	.50	.449	.0231	88.00	100.00	12.00
504	78.0	14.9	.50	.449	.0231	95.00	100.00	5.00
505	78.0	14.9	.50	.449	.0231	94.00	100.00	6.00
506	78.0	14.9	.50	.449	.0231	99.00	100.00	1.00
507	77.0	14.9	.50	.448	.0231	87.00	100.00	13.00
509	78.0	14.9	.50	.449	.0231	99.00	100.00	1.00
510	78.0	14.9	.50	.449	.0231	95.00	100.00	5.00
511	78.0	14.9	.50	.449	.0231	99.00	100.00	1.00
512	78.0	14.9	.50	.449	.0231	100.00	100.00	.00
513	78.0	14.9	.50	.449	.0231	97.00	100.00	3.00

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SCI 1626-GUI-1077

SCOTT ENVIRONMENTAL TECHNOLOGY INC.  
USAF TURBINE ENGINE EMISSIONS INVENTORY  
EDIT REPORT - SAMPLE POINT SMOKE DATA

SAMPLE POINT	TEMP DEG.F	PRESS PSIA	FLOW CFM	VOLUME CF	B/A B/SO-IN	SAMPLE REFL.	PAPER REFL.	SN
001	78.0	14.9	-50	.449	.0231	93.00	100.00	7.00
002	78.0	14.9	-50	.449	.0231	84.00	100.00	12.00
003	78.0	14.9	-50	.449	.0231	84.00	100.00	16.00
004	78.0	14.9	-50	.449	.0231	83.00	100.00	17.00
005	78.0	14.9	-50	.449	.0231	91.00	100.00	9.00
007	78.0	14.9	-50	.449	.0231	95.00	100.00	5.00
008	78.0	14.9	-50	.449	.0231	90.00	100.00	10.00
009	78.0	14.9	-50	.449	.0231	79.00	100.00	21.00
010	78.0	14.9	-50	.449	.0231	80.00	100.00	20.00
011	78.0	14.9	-50	.449	.0231	90.00	100.00	10.00
012	78.0	14.9	-50	.449	.0231	96.00	100.00	4.00
013	78.0	14.9	-50	.449	.0231	75.00	100.00	25.00
501	78.0	14.8	-50	.453	.0232	93.00	100.00	7.00
502	78.0	14.8	-50	.453	.0232	89.00	100.00	11.00
503	78.0	14.8	-50	.453	.0232	93.00	100.00	7.00
504	78.0	14.8	-50	.453	.0232	95.00	100.00	5.00
505	78.0	14.8	-50	.453	.0232	90.00	100.00	10.00
506	78.0	14.8	-50	.453	.0232	98.00	100.00	2.00
507	78.0	14.8	-50	.453	.0232	83.00	100.00	17.00
508	78.0	14.8	-50	.453	.0232	94.00	100.00	6.00
509	78.0	14.8	-50	.453	.0232	96.00	100.00	4.00
510	78.0	14.8	-50	.453	.0232	90.00	100.00	10.00
511	78.0	14.8	-50	.453	.0232	97.00	100.00	3.00
512	78.0	14.8	-50	.453	.0232	98.00	100.00	2.00
513	78.0	14.8	-50	.453	.0232	95.00	100.00	5.00

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**APPENDIX F**  
**CONCENTRATION EDIT REPORTS**

SCOTT ENVIRONMENTAL TECHNOLOGY INC.  
USAF TURBINE ENGINE EMISSIONS INVENTORY  
CONCENTRATION EDIT REPORT

SET 1626-001-1077

REPORT DATE 10/24/77  
USAF CONTRACT F08635-77-C216  
CAL. DATE 7/22/77

REFERENCE CURVE TABLES - NON-LINEAR INSTRUMENTS

CO - HI				CO - LCM				CO				CO			
PPMV	VOLTS	ANGLE		PPMV	VOLTS	ANGLE		PPMV	VOLTS	ANGLE		PPMV	VOLTS	ANGLE	
RANGE 1 :				RANGE 1 :				RANGE 1 :				RANGE 1 :			
.00	.0000	1.5705		.00	.0000	1.5695		.00	.0000	1.5676		.00	.0000	1.5611	
245.00	.0650	1.5705		30.10	.0430	1.5694		30.10	.0430	1.5674		30.10	.0430	1.5611	
895.00	.2130	1.5706		60.30	.0830	1.5694		60.30	.0830	1.5674		60.30	.0830	1.5611	
1840.00	.3930	1.5706		78.40	.1060	1.5696		78.40	.1060	1.5677		78.40	.1060	1.5624	
2400.00	.4940	1.5706		176.00	.2240	1.5696		176.00	.2240	1.5682		176.00	.2240	1.5624	
4127.00	.7760	1.5707		245.00	.3000	1.5698		245.00	.3000	1.5682		245.00	.3000	1.5624	
9100.00	1.2080	1.5707		614.00	.6100	1.5700		614.00	.6100	1.5682		614.00	.6100	1.5624	
9600.00	1.3780	1.5707		895.00	.8340	1.5700		895.00	.8340	1.5682		895.00	.8340	1.5624	
RANGE 2 :				RANGE 2 :				RANGE 2 :				RANGE 2 :			
.00	.0000	1.5703		.00	.0000	1.5676		.00	.0000	1.5676		.00	.0000	1.5611	
176.00	.0710	1.5705		30.10	.0430	1.5674		30.10	.0430	1.5674		30.10	.0430	1.5611	
245.00	.0900	1.5705		60.30	.0830	1.5674		60.30	.0830	1.5674		60.30	.0830	1.5611	
614.00	.2070	1.5705		78.40	.1060	1.5677		78.40	.1060	1.5677		78.40	.1060	1.5624	
895.00	.3000	1.5705		176.00	.2240	1.5679		176.00	.2240	1.5682		176.00	.2240	1.5624	
1840.00	.4940	1.5705		245.00	.3000	1.5682		245.00	.3000	1.5682		245.00	.3000	1.5624	
2400.00	.7460	1.5705		614.00	.6100	1.5682		614.00	.6100	1.5682		614.00	.6100	1.5624	
4127.00	1.2320	1.5705		895.00	.8340	1.5682		895.00	.8340	1.5682		895.00	.8340	1.5624	
RANGE 3 :				RANGE 3 :				RANGE 3 :				RANGE 3 :			
.00	.0000	1.5687		.00	.0000	1.5687		.00	.0000	1.5687		.00	.0000	1.5687	
30.10	.0510	1.5695		30.10	.0510	1.5695		30.10	.0510	1.5695		30.10	.0510	1.5695	
176.00	.1840	1.5700		176.00	.1840	1.5700		176.00	.1840	1.5700		176.00	.1840	1.5700	
245.00	.2300	1.5700		245.00	.2300	1.5700		245.00	.2300	1.5700		245.00	.2300	1.5700	
614.00	.6030	1.5697		614.00	.6030	1.5697		614.00	.6030	1.5697		614.00	.6030	1.5697	
895.00	.9610	1.5694		895.00	.9610	1.5694		895.00	.9610	1.5694		895.00	.9610	1.5694	

\*\* NOTES \*\*

SPAN VOLTAGES ALREADY CORRECTED FOR ZERO GAS VOLTAGES.

A CONCENTRATION VALUE OF -1.0 INDICATES NO DATA.



REPORT DATE 10/24/77  
USAF CONTRACT F0635-77-0216  
FIELD TEST 1

### NON-LINEAR INSTRUMENTS :

REFERENCE CURVES CALIBRATION DATE : 1/22/77

	CO - MI		CO - LO		CO2	
	PERIOD START	PERIOD END	PERIOD START	PERIOD END	PERIOD START	PERIOD END
<b>RANGE 1</b>						
SPAN ADJ.FACTOR	.9730	.9730	.9934	.9934	1.0040	1.0040
ZERO READING	.0005	.0005	.0003	.0003	.0026	.0026
<b>RANGE 2</b>						
SPAN ADJ.FACTOR	.9940	1.0052	.9969	.9949	1.0112	1.0554
ZERO READING	.0016	.0069	.0143	-.0036	.0024	.0008
<b>RANGE 3</b>						
SPAN ADJ.FACTOR	.9532	.9532	.9919	.9919	.9937	.9937
ZERO READING	.0015	.0161	.0162	.0741	-.0033	-.0041

## LINEAR INSTRUMENTS :

SPAN ADJ. FACTOR		TMC		PERIOD		NOI		PERIOD		NO	
		START	END	START	END	START	END	START	END	START	END
		.9402	1.0333	1.0641	.9648	1.0928	1.1009				
1	1.0										
2	5.0	.1166	.1444	.1271	.7756	.1900	.2728				
3	10.0	-.0014	.0637	.0316	.1939	.0975	.0682				
4	10.0	-.0100	-.0022	.0029	.0776	.0154	.0154				
5	50.0	-.0000	.0030	.0035	.0194	.0066	.0048				
6	100.0	-.0000	.0015	.0021	.0074	.0027	.0027				
7	500.0	-.0000	.0003	.0003	.0019	.0010	.0007				
8	1000.0	-.0000	.0001	.0001	.0004	.0004	.0003				
9	2500.0	-.0000	.0000	.0000	.0002	.0001	.0001				
10	5000.0	-.0000	.0000	.0000	.0000	.0000	.0000				

## SPAN GAS CONCENTRATIONS :

	TMC-PPMC	NOX-PPM	NO-PPM	CO-HI-PPM	CO-LO-PPM	CO2-2	
SPAN 1	24.48	19.70	19.70	245.00	78.40	4.49	TOT.PRESS.FACT. 1.610 ALJ.
SPAN 2	417.00	90.40	90.40	2400.00	245.00	4.50	SAMPLE FLOW RATE - 14
SPAN 3	4620.00						THEMOCUPLE TYPE - 14

\*\*\* NOTE \*\* DATA MARKED WITH AN ASTERISK (\*) NOT INCLUDED IN AVERAGE

*--- TMC ---*		*--- NO ---*		*--- CO-HI ---*		*--- CO-LO ---*		*--- LG2 ---*		*--- TEMP. ---*	
RNG	VOLTS	RNG	VOLTS	RNG	VOLTS	RNG	VOLTS	RNG	VOLTS	INPUT	REFER
MODE-POINT : 4-01											
SPAN/ZERO ADJ.											
SAMPLE DATA :											
TIME : 1201											
PROBE POS.: +30											
-12.70 IN.											
PRESS.: 18.62 PSIA											
AVERAGE :											
CONCENTRATION : 70.73 PPMC											
MODE-POINT : 4-02											
SPAN/ZERO ADJ.											
SAMPLE DATA :											
TIME : 1203											
PROBE POS.: +30											
-9.76 IN.											
AVERAGE :											
CONCENTRATION : 164.81 PPMC											

\*\* NOTE \*\* DATA MARKED WITH AN ASTERISK (\*) NOT INCLUDED IN AVERAGE

REPORT DATE 10/24/77  
USAF CONTRACT NO 635-77-C216  
WLR FIELD TEST 1

SCOTT TEST 1, TYPE A

F 106 701 4 291039 W 620161

FIELD TEST 1

CONCENTRATION :

THIS PAGE IS BEST QUALITY PRACTICALLY  
REPRODUCED FROM THE ORIGINAL

SCOTT ENVIRONMENTAL TECHNOLOGY INC. SET 1628-001-1077 REPORT DATE 10/24/77  
USAF TURBINE ENGINE EMISSIONS INVENTORY SCOTT TEST 1, TYPE A 4/ 3/77 F 100 M 68016U USAF CONTRACT F08635-77-0216  
CONCENTRATION EDIT REPORT MPR FIELD TEST 1

---	TMC	---	NUX	---	NO	---	CU-HI	---	CU-LO	---	CO2	---	TEMP
RNG	VOLTS	RNG	VOLTS	RNG	VOLTS	RNG	VOLTS	RNG	VOLTS	RNG	VOLTS	INPUT	REFER

MODE-POINT : 0-05

SPAN/ZERO ADJ.	0.99	-0.0059	1.01	0.0051	1.10	0.0092	0.95	0.0092	0.99	0.0003	0.99	-0.0037	
SAMPLE DATA :													
TIME : 1211	10.00	0.6999	250.00	0.4146	100.00	0.4239	3	0.3838	1	0.4606	3	0.4075	171.9
PROBE POS.: 030		0.7068		0.4246		0.4273		0.3831		0.4576		0.4068	171.4
9.79 IN.		0.7028		0.4214		0.4237		0.3861		0.4598		0.4066	171.4
PRESS.: 29.93 PSIA		0.7193		0.4207		0.4161		0.3866		0.4606		0.4050	171.8
		0.7125		0.4149		0.4105		0.3855		0.4588		0.4125	171.8
AVERAGE :		0.7083		0.4193		0.4221		0.3850		0.4595		0.4077	171.7
CONCENTRATION :	354.13 PPMC		104.81 PPMV		42.21 PPMV		413.40 PPMV		427.57 PPMV		1.81	2 VOL	742.7 DEG.F

MODE-POINT : 0-06

SPAN/ZERO ADJ.	0.99	-0.0055	1.01	0.0126	1.10	0.0133	0.95	0.0099	1.00	-0.0002	0.99	-0.0038	
SAMPLE DATA :													
TIME : 1214	10.00	0.3467	100.00	0.3990	25.00	0.5849	3	0.1516	2	0.4775	3	0.1681	118.1
PROBE POS.: 030		0.3295		0.3909		0.6718		0.1481		0.4673		0.1653	118.4
12.55 IN.		0.3295		0.3912		0.6646		0.1501		0.4733		0.1667	118.3
PRESS.: 19.42 PSIA		0.3338		0.3885		0.6692		0.1477		0.4694		0.1650	117.8
		0.3252		0.3908		0.6735		0.1458		0.4638		0.1647	117.9
AVERAGE :		0.3329		0.3921		0.6728		0.1486		0.4702		0.1660	118.1
CONCENTRATION :	166.47 PPMC		39.21 PPMV		16.82 PPMV		131.67 PPMV		146.25 PPMV		0.71	2 VOL	290.4 DEG.F

NOTE DATA MARKED WITH AN ASTERISK (\*) NOT INCLUDED IN AVERAGE

*** TMC ***	*** NOX ***	*** CO-HI ***	*** CO-LO ***	*** LC2 ***	*** TEMP. ***
RNG VOLTS	RNG VOLTS	RNG VOLTS	RNG VOLTS	RNG VOLTS	INPUT REFER
1.00 --0049	1.00 .0137	1.10 .0094	1.00 --0000	.99 --0038	
10.00 .4167	100.00 .5775	100.00 .2886	2 .6460	3 .2276	116.7 80.6
.4093	.5757	.2965	.6429	.2338	119.1 80.5
.4134	.5738	.2946	.6447	.2296	118.8 80.5
.4091	.5742	.2929	.6394	.2272	118.7 80.6
.4071	.5704	.2930	.6422	.2324	118.8 80.6
AVERAGE :	.5743	.2931	.6430	.2301	118.8 80.6
CONCENTRATION :	57.93 PPMV	29.31 PPMV	206.59 PPMV	1.00 VOL	297.7 DEG.F

*** TMC ***	*** NOX ***	*** CO-HI ***	*** CO-LO ***	*** LC2 ***	*** TEMP. ***
RNG VOLTS	RNG VOLTS	RNG VOLTS	RNG VOLTS	RNG VOLTS	INPUT REFER
1.00 --0046	1.00 .0060	1.10 .0094	.99 .0003	.99 --0039	
10.00 .4888	250.00 .5569	100.00 .7653	1 .4617	3 .5487	200.5 81.4
.4881	.5472	.7518	.4642	.5541	201.0 81.4
.4836	.5559	.7698	.4632	.5468	201.3 81.4
.4788	.5534	.7583	.4617	.5545	201.5 81.3
.4878	.5557	.7545	.4637	.5472	201.7 81.3
AVERAGE :	.5538	.7599	.4630	.5503	201.2 81.4
CONCENTRATION :	138.45 PPMV	75.99 PPMV	431.68 PPMV	2.47 VOL	572.6 DEG.F

\*\*\* NOTE \*\*\* DATA MARKED WITH AN ASTERISK (\*) NOT INCLUDED IN AVERAGE

SCOTT ENVIRONMENTAL TECHNOLOGY INC.  
USAF TURBINE ENGINE EMISSIONS INVENTORY  
CONCENTRATION EDIT REPORT

REPORT DATE 10/24/77  
USAF CONTRACT F08635-77-0216  
WPH  
FIELD TEST 1

SET 1020-C01-1077  
8/ 3/77 6 100 8 000160

SCOTT TEST 1, TYPE A

*--- IHC ---*	*--- NOX ---*	*--- NO ---*	*--- CO-HI ---*	*--- CO-LO ---*	*--- CC2 ---*	*--- TEMP ---*
RNG VOLTS	RNG VOLTS	RNG VOLTS	RNG VOLTS	RNG VOLTS	RNG VOLTS	INPUT REFER

MODE-POINT : 4-09

SPAN/ZERO ADJ.	1.01	.1397	.99	.0015	1.10	.0039	.95	.0121	1.00	-.0014	.99	-.0039			
SAMPLE DATA :	1.00	.4588	1000.00	.3212	250.00	1.0529	3	.1523	2	.0660	3	.9082	248.0	81.1	
TIME : 1224		.3816		.3257		1.0604		.1000		.0580		.9066	248.2	81.1	
PROBE POS.: -30		.3642		.3221		1.0519		.1070		.0725		.9116	248.3	81.0	
-5.86 IN.		.3734		.3164		1.0410		.1086		.0827		.9093	248.3	81.0	
PRESS.: 30.58 PSIA		.3276		.3204		1.0425		.1066		.0667		.9105	248.1	81.0	
AVERAGE :		.3811		.3216		1.0497		.1073		.0772		.9092	248.2	81.0	
CONCENTRATION :	19.06	PPMC	321.56	PPMV	262.44	PPMV	130.07	PPMV	148.59	PPMV	4.54	3 VOL	1351.7	DEG.F	

MODE-POINT : 4-10

SPAN/ZERO ADJ.	1.01	.0489	.99	.0016	1.10	.0037	.95	.0128	.99	.0003		-.0039			
SAMPLE DATA :	5.00	.9006	1000.00	.1992	250.00	.4541	3	.6557	1	.6721	3	.7668	219.1	80.6	
TIME : 1227		.9046		.1987		.4542		.6566		.6735		.7565	218.4	80.6	
PROBE POS.: -30		.8994		.2033		.4520		.6557		.6735		.7656	218.4	80.6	
5.68 IN.		.9318		.2015		.4581		.6553		.6742		.7650	218.4	80.6	
PRESS.: 30.65 PSIA		.9252		.1997		.4709		.6586		.6723		.7668	218.0	80.7	
AVERAGE :		.9123		.2005		.4594		.6574		.6731		.7641	218.5	80.6	
CONCENTRATION :	228.08	PPMC	200.47	PPMV	114.96	PPMV	660.78	PPMV	691.64	PPMV	3.59	3 VOL	1110.2	DEG.F	

\*\* NOTE \*\* DATA MARKED WITH AN ASTERISK (\*) NOT INCLUDED IN AVERAGE



SCOTT ENVIRONMENTAL TECHNOLOGY INC. SET 1628-101-1077 REPORT DATE 10/24/77  
 USAF TURBINE ENGINE EMISSIONS INVENTORY USAF CONTRACT F08635-77-0216  
 CONCENTRATION EDIT REPORT SCOTT TEST 1,TYPE A P/ 3/77 F 100 # 680160 WPE FIELD TEST 1

1MC	NOX	PM	CO	CO-10	CO2	TEMP
RMG VOLTS	RMG VOLTS	PM VOLTS	RMG VOLTS	RMG VOLTS	RMG VOLTS	INPUT REFER

MODE-POINT : 4-13

SPAN/ZERO ADJ.

SAMPLE DATA :

TIME : 1207

PROBE POS.: 430

-.03 IN.

PRESS.: 30.44 PSIA

AVERAGE :

CONCENTRATION :

.98	.0268	1.02	.0011	1.10	.0051	.95	.0063	1.00	.0007	.94	.0037		
5.00	.0127	1000.00	.3054	250.00	1.0155	3	.0766	2	.2530	3	.7962	227.8	81.0
	.0085		.3057		1.0186		.0762		.2396		.7959	227.7	81.0
	.0029		.3071		1.0208		.0742		.2322		.8006	227.9	81.0
	.0020		.3075		1.0173		.0735		.2293		.7954	227.7	81.0
	.0013		.3073		1.0193		.0749		.2257		.8015	227.8	80.9
	.0050		.3066		1.0183		.0751		.2354		.7987	227.8	81.0
	1.24 PPMC	306.57 PPMV	254.58 PPMV	50.57 PPMV	69.47 PPMV	3.40	2 VOL					1184.9	DEF.F



SCOTT ENVIRONMENTAL TECHNOLOGY INC.  
 USAF TURBINE ENGINE EMISSIONS INVENTORY  
 CONCENTRATION EDIT REPORT

SET 1676-001-1077

REPORT DATE 10/24/77

USAF CONTRACT F06635-77-C216

FIELD TEST 1

SCOTT TEST 1, TYPE A

P/ 3/77

F 100

# 603100

WFO

# CALIBRATION DATA FOR PERIOD 1242 TO 1605

## NON-LINEAR INSTRUMENTS :

REFERENCE CURVES CALIBRATION DATE : 7/22/77

	CO - HI	PERIOD START	PERIOD END	CO - LO	PERIOD START	PERIOD END	CO	PERIOD START	PERIOD END
<b>RANGE 1</b>									
SPAN ADJ.FACTOR	.9730	1.1980		.9034	.9839		1.0040	1.2613	
ZERO READING	.0005	.1461		.0003	.0621		.0026	.1940	
<b>RANGE 2</b>									
SPAN ADJ.FACTOR	1.0052	1.3353		.9948	1.0201		1.0554	1.3412	
ZERO READING	.0069	.2219		-.0036	.1763		.0006	.2021	
<b>RANGE 3</b>									
SPAN ADJ.FACTOR	.9532	.8820		.9419	.7692		.9937	1.1132	
ZERO READING	.0161	.1018		.0741	.3299		-.0041	.1045	

## LINEAR INSTRUMENTS :

	THC	PERIOD START	PERIOD END	NOX	PERIOD START	PERIOD END	NO	PERIOD START	PERIOD END
<b>SPAN ADJ.FACTOR</b>									
	1.0333		.9724		.9648	1.0381		1.0109	1.1853
<b>ZEROS FOR RANGES</b>									
(THC) (NOX/NO)									
1	1.0	2.5	.0107		.7746	.3850		.2728	.4722
2	5.0	10.0	.0069		.1939	.0962		.0682	.1141
3	10.0	25.0	-.0023		.0776	.0319		.0154	.0211
4	50.0	100.0	.0002		.0194	.0092		.0098	.0100
5	100.0	250.0	.0001		.0078	.0047		.0027	.0081
6	500.0	1000.0	.0000		.0019	.0010		.0007	.0012
7	1000.0	2500.0	.0001		.0006	.0004		.0003	.0005
8	5000.0	10000.0	.0000		.0002	.0001		.0001	.0001

## SPAN GAS CONCENTRATIONS :

	THC-PPMC	NOX-PPM	CO-HI-PPM	CO-LO-PPM	CO2-2
<b>SPAN 1</b>	24.48	19.70	245.00	78.40	4.49
<b>SPAN 2</b>	417.00	90.40	2400.00	245.00	6.50
<b>SPAN 3</b>	4620.00				

TOT.PRESS.FACT. 1.0117 ALG.  
 SAMPLE POINT TYPE - TP  
 THERMOCOUPLE TYPE - IF

NOTE \*\* DATA MARKED WITH AN ASTERISK (\*) NOT INCLUDED IN AVERAGE

SCOTT ENVIRONMENTAL TECHNOLOGY INC.  
USAF TURBINE ENGINE EMISSIONS INVENTORY  
CONCENTRATION EDIT REPORT

SET 14.28-701-1077

WLFURT DATE 10/24/77  
USAF CONTRACT F06635-77-0216  
WPR

SCOTT TEST 1, TYPE 4 M/ 3/77 F 1JC 8 64016C

FIELD TEST 1

TIME	RNG	VOLTS	NOX	RNG	VOLTS	NO	RNG	VOLTS	CO-MI	RNG	VOLTS	CO-LO	RNG	VOLTS	CC2	RNG	VOLTS	TEMP	REFER
------	-----	-------	-----	-----	-------	----	-----	-------	-------	-----	-------	-------	-----	-------	-----	-----	-------	------	-------

MODE-POINT : 5-01

SPAN/ZERO ADJ.  
SAMPLE DATA :

TIME : 1519

PROBE POS.: +30

-14.29 IN.

PRESS.: 30.88 PSIA

AVERAGE :

CONCENTRATION :

MODE-POINT : 5-02

SPAN/ZERO ADJ.  
SAMPLE DATA :

TIME : 1521

PROBE POS.: +30

-11.05 IN.

PRESS.: 32.74 PSIA

AVERAGE :

CONCENTRATION :

NOTE \*\* DATA WARNED WITH AN ASTERISK (\*) NOT INCLUDED IN AVERAGE

SCOTT ENVIRONMENTAL TECHNOLOGY INC. SET 1628-C01-1077 REPORT DATE 10/24/77  
 USAF TUBING ENGINE EMISSIONS INVENTORY USAF CONTRACT F08635-77-0216  
 CONCENTRATION EDIT REPORT SCOTT TEST 1, TYPE A 8/ 3/77 F 1UG # 680160 MPB FIELD TEST 1

THC	NOX	NO	CO-HI	CO-LO	CO2	TEMP
RNG	VOLTS	RNG	VOLTS	RNG	VOLTS	INPUT

MODE-POINT : 5-03

SPAN/ZERO ADJ.

SAMPLE DATA :

TIME : 1523

PROBE POS.: +30

-6.39 IN.

PRESS.: 30.73 PSIA

AVERAGE :

CONCENTRATION :

MODE-POINT : 5-04

SPAN/ZERO ADJ.

SAMPLE DATA :

TIME : 1527

PROBE POS.: +30

6.18 IN.

PRESS.: 30.83 PSIA

AVERAGE :

CONCENTRATION :

\*\* NOTE \*\* DATA MARKED WITH AN ASTERISK (\*) NOT INCLUDED IN AVERAGE

SCOTT ENVIRONMENTAL TECHNOLOGY INC. REPORT DATE 10/24/77  
 USAF FURNITURE ENGINE EMISSIONS INVENTORY USAF CONTRACT# F08635-77-0216  
 CONCENTRATION EDIY REPORT SCOTT TEST 1, TYPE A 8/ 3/77 F 100 # 680160 WPB FIELD TEST 1

MODE-POINT : 5-05

SPAN/ZERO ADJ. .98 .0352 1.03 .0052 1.17 .0071 1.16 .1202 .99 .0512 1.22 .0777  
 SAMPLE DATA :  
 TIME : 1529  
 PROBE POS.: +30  
 10.80 IN.  
 PRESS.: 32.19 PSIA  
 AVERAGE :  
 CONCENTRATION : 14.39 PPMC 174.84 PPMV 121.93 PPMV 9905.96 PPMV 2.1926 .00 PPMV 13.13 % VOL .0 0066.F

MODE-POINT : 5-06

SPAN/ZERO ADJ. .98 .0181 1.03 .0052 1.17 .0099 1.16 .1215 .99 .0517 1.22 .0786  
 SAMPLE DATA :  
 TIME : 1531  
 PROBE POS.: +30  
 14.11 IN.  
 PRESS.: 25.11 PSIA  
 AVERAGE :  
 CONCENTRATION : 66.37 PPMC 54.02 PPMV 14.12 PPMV 1333.63 PPMV 1.6098 .00 PPMV 4.57 % VOL .0 0066.F

\*\* NOTE \*\* DATA MARKED WITH AN ASTERISK (\*) NOT INCLUDED IN AVERAGE

SCOTT ENVIRONMENTAL TECHNOLOGY INC.  
USAF TURBINE ENGINE EMISSIONS INVENTORY  
CONCENTRATION EDIT REPORT

SCOTT TEST TYPE A NO 377 6 JUL 8 06JUL80

SAT 1230-031-1077

REPORT DATE 10/29/77  
COST CONTRACT F0605-77-0216  
FILED TEST 1

MODE-POINT : 5-07

SPAN/ZERO ADJ.

**SAMPLE DATA :**

TIME : 1535

PROBE POS.: -30

-14.25 IN.

PRESS.: 28.65 PSIA

AVERAGE :

CONCENTRATION :

MODE-POINT : 5-08

SPAN/ZERO ADJ.

SAMPLE DATA :

TIME : 1537

PROBE POS.:

-11.06 IN.

**AVERAGE :**

CONCENTRATION :

NOIE \*\* DATA MARKED WITH AN ASTERISK (\*) NOT INCLUDED IN AVERAGE

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USAF TURBINE ENGINE EMISSIONS INVENTORY  
CONCENTRATION EDIT REPORT

REPORT DATE 10/24/77  
USAF CONTRACT F08635-77-0216  
WPH

SET 1628-001-1077  
F 100 0 60160  
R/ 3/77

SCOTT TEST 1, TYPE A

THC		NOX		NO		CO-HI		CO-LO		CO2		TEMP.	
RNG	VOLTS	RNG	VOLTS	RNG	VOLTS	RNG	VOLTS	RNG	VOLTS	RNG	VOLTS	INPUT	REFER
MODE-POINT : 5-09													
.98	.0159	1.03	.0011	1.17	.0074	1.17	.1276	.99	.0543	1.23	.0823		
SPAN/ZERO ADJ.													
SAMPLE DATA :													
5.00	.2400	1000.00	.3101	250.00	.9351	1	1.3754	1	2.1609	1	.7502		.00
	.1636		.3109		.9381		1.3661		2.1684		.7493		.00
PROBE POS.:													
	.1476		.3170		.9400		1.2819		2.1660		.7494		.00
-6.42 IN.			.3145		.9505		1.2937		2.1627		.7469		.00
PRESS.: 30.16 PSIA			.3150		.9405		1.2803		2.1777		.7490		.00
	.1524												
AVERAGE :													
	.1737		.3135		.9408		1.3195		2.1672		.7494		.00
CONCENTRATION :	43.42 PPMC	313.51 PPMV	235.21 PPMV	9090.45 PPMV				.00 PPMV		13.21 % VOL		.00 DEG.F	
MODE-POINT : 5-10													
.98	.0270	1.03	.0011	1.18	.0074	1.17	.1289	.98	.0546	1.23	.0832		
SPAN/ZERO ADJ.													
SAMPLE DATA :													
1.00	.1395	1000.00	.3109	250.00	.9429	1	1.2851	1	2.1686	1	.7501		.00
	.1412		.3102		.9261		1.2868		2.1776		.7495		.00
PROBE POS.:													
	.1468		.3078		.9300		1.3296		2.1877		.7492		.00
6.30 IN.			.3056		.9181		1.3155		2.1974		.7468		.00
PRESS.: 30.20 PSIA			.3090		.9185		1.2897		2.1991		.7490		.00
	.1301												
AVERAGE :													
	.1416		.3087		.9271		1.3013		2.1861		.7489		.00
CONCENTRATION :	7.08 PPMC	308.69 PPMV	231.78 PPMV	931.05 PPMV				.00 PPMV		13.19 % VOL		.00 DEG.F	

\*\* NOTE \*\* DATA MARKED WITH AN ASTERISK (\*) NOT INCLUDED IN AVERAGE

REPORT DATE 10/24/77  
USAF CONTRACT F06635-77-0210  
FIELD TEST 1  
WPH

CONCENTRATION =

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SCOTT ENVIRONMENTAL TECHNOLOGY INC. REPORT DATE 10/24/77  
 USAF TURBINE ENGINE EMISSIONS INVENTORY USAF CONTRACT F08635-77-G216  
 CONCENTRATION EDIT REPORT SCOTT TEST 1, TYPE A F 100 B 680160 WPS FIELD TEST 1

MODE-POINT : 5-13	RMG	VOLTS	NOX	RMG	VOLTS	NO	RMG	VOLTS	LO-MI	RMG	VOLTS	CO-LO	RMG	VOLTS	CO2	RMG	VOLTS	TEMP	REFER
SPAN/ZERO ADJ.	.98	.0380	1.02	.0012	1.17	.0070	1.15	.1172	.99	.0499	1.21	.C759							
SAMPLE DATA :																			
TIME : 1525	1.00	.3658	1000.00	.3147	250.00	.9590	1	1.2340	1	2.0858	1	2.0797	1	2.0858	1	.7642		.00	.00
PROBE POS.: +30		.3775		.3164		.9617		1.2045		2.0797		2.0797		2.0797		.7616		.00	.00
-.02 IN.		.3743		.3175		.9685		1.2217		2.1015		2.1015		2.1015		.7613		.00	.00
PRESS.: 30.41 PSIA		.3696		.3169		.9629		1.1981		2.1111		2.1111		2.1111		.7617		.00	.00
		.3499		.3166		.9621		1.2133		2.1183		2.1183		2.1183		.7611		.00	.00
AVERAGE :		.3714		.3164		.9628		1.2143		2.0993		2.0993		2.0993		.7626		.00	.00
CONCENTRATION :	18.57	PPMC	316.44	PPMV	240.71	PPMV	8156.93	PPMV								13.70	2 VOL	.0	DEG.F

\*\* NOTE \*\* DATA MARKED WITH AN ASTERISK (\*) NOT INCLUDED IN AVERAGE

50

STOP CONC



SCOTT ENVIRONMENTAL TECHNOLOGY INC. REPORT DATE 10/24/77  
 USAF TURBINE ENGINE EMISSIONS INVENTORY USAF CONTRACT F08635-77-C216  
 CONCENTRATION EDIT REPORT SCOTT TEST Z,TYPE A 8/ 9/77 F100 # 660325 WPM FIELD TEST 2

SET 1628-001-1077

CALIBRATION DATA FOR PERIOD 922 TO 1019

NON-LINEAR INSTRUMENTS : REFERENCE CURVES CALIBRATION DATE : 7/22/77

	CO - HI		CO - LO		CO2	
	PERIOD START	PERIOD END	PERIOD START	PERIOD END	PERIOD START	PERIOD END
RANGE 1						
SPAN ADJ.FACTOR	.9876	.9764	.9840	.9681	1.0074	1.0416
ZERO READING	.0017	.0033	.0014	.0371	.0002	.0015
RANGE 2						
SPAN ADJ.FACTOR	.9824	.9900	.9829	.9156	1.0016	1.0405
ZERO READING	-.0002	.0036	.0064	.0970	.0069	.0029
RANGE 3						
SPAN ADJ.FACTOR	.9360	.9424	.9652	.3420	.9951	1.0626
ZERO READING	-.0054	.0045	.0134	.2866	.0018	-.0009

LINEAR INSTRUMENTS :

	TMC		NOX		NO	
	PERIOD START	PERIOD END	PERIOD START	PERIOD END	PERIOD START	PERIOD END
SPAN ADJ.FACTOR	.9620	.9527	1.0163	1.0096	1.0241	1.1328
ZEROS FOR RANGES (TMC) (NOX/NO)						
1 1.0 2.5	.0841	.1611	.4680	.8124	.9749	.6297
2 5.0 10.0	.0185	.0306	.1170	.2031	.2437	.1574
3 10.0 25.0	.0058	.0158	.0172	.0817	.0408	.0630
4 50.0 100.0	.0007	.0031	.0090	.0187	.0089	.0106
5 100.0 250.0	.0007	.0016	.0038	.0084	.0072	.0044
6 500.0 1000.0	.0001	.0003	.0024	.0020	.0068	.0016
7 1000.0 2500.0	.0001	.0002	.0005	.0004	.0010	.0006
8 5000.0 10000.0	.0000	.0000	.0001	.0002	.0002	.0002

SPAN GAS CONCENTRATIONS :

	TMC-PPHC	NOX-PPH	NO-PPH	CO-HI-PPH	CO-LO-PPH	CO2-1
SPAN 1	24.48	19.70	19.70	245.00	78.40	4.49
SPAN 2	417.00	90.40	90.40	2400.00	245.00	4.90
SPAN 3	4620.00					

TOT.PRESS.FACT. 1.000, ADJ. .00  
 SAMPLE PRIME TYPE - TP  
 THERMOCOUPLE TYPE - IP

SCOTT ENVIRONMENTAL TECHNOLOGY INC. REPORT DATE 10/24/77  
USAF TURBINE ENGINE EMISSIONS INVENTORY USAF CONTRACT F08635-77-0216  
CONCENTRATION EDIT REPORT SCOTT TEST 2 TYPE A 07 9/77 F100 0 063325 WPR FIELD TEST 2

MODE-POINT : 4-01

SPAN/ZERO ADJ. .96 .0000 1.01 .0053 1.00 .0075 .99 .0020 .98 .0120 1.01 .0057  
SAMPLE DATA :  
TIME : 959 10.00 .0001 250.00 .0007 250.00 .0000 .0000 .0000 .0000 .0000 .0000  
PROBE POS.: 130 .0007 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000  
-11.14 IN. .0003 .0005 .0005 .0005 .0005 .0005 .0005 .0005 .0005 .0005  
PRESS.: 32.00 PSIA .0029 .0053 .0053 .0053 .0053 .0053 .0053 .0053 .0053 .0053  
AVERAGE : .0052 .0052 .0052 .0052 .0052 .0052 .0052 .0052 .0052 .0052  
CONCENTRATION : 210.61 PPM 122.00 PPM 82.10 PPM 57.00 PPM 321.30 PPM 1.40 E VM

MODE-POINT : 4-02

SPAN/ZERO ADJ. .96 .0092 1.01 .0055 1.01 .0075 .99 .0020 .98 .0120 1.01 .0055  
SAMPLE DATA :  
TIME : 941 10.00 .0003 250.00 .0007 250.00 .0000 .0000 .0000 .0000 .0000 .0000  
PROBE POS.: 130 .0007 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000 .0000  
-11.61 IN. .0003 .0005 .0005 .0005 .0005 .0005 .0005 .0005 .0005 .0005  
PRESS.: 35.20 PSIA .0029 .0053 .0053 .0053 .0053 .0053 .0053 .0053 .0053 .0053  
AVERAGE : .0052 .0052 .0052 .0052 .0052 .0052 .0052 .0052 .0052 .0052  
CONCENTRATION : 240.34 PPM 122.00 PPM 82.10 PPM 57.00 PPM 321.30 PPM 1.40 E VM

NOTE : DATA MARKED WITH AN ASTERISK (\*) OR WITH A # IS SUSPECT

SCOTT ENVIRONMENTAL TECHNOLOGY INC.  
USAF TURBINE ENGINE EMISSIONS INVENTORIES  
CONCENTRATION COST REPORT

SCOTT TEST 2  
SCOTT TEST 2  
SCOTT TEST 2

SEE 1024-201-1027  
1024-201-1027  
1024-201-1027

REPORT DATE 10/24/77  
USAF CONTRACT F06635-77-C216  
PAGE 2

MOFF-POLNY : 9-03

SPAN/ZERO ADJ.

**SAMPLE DATA :**

7141 : 346

PHOTO COPY

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**AVIATION :**

**CONCENTRATION**

MODEL POINT : 4-04

SPAN/LEHO ADJ.

APRIL DATA :

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PHONE ROOM. 10

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AVL PAGE 3

CONCENTRATION

.. NOVE .. DAVA MARRED WITH AN ASSIGLIM FOR NOY INZUGU! 222221

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REPORT DATE 10/20/77  
USAF CONTRACT F08635-77-0216  
WPR FIELD TEST 2

CONCENTRATION :

\*\*\* NOTE \*\* DATA MARKED WITH AN ASTERISK (\*) NOT INCLUDED IN AVERAGE

SCOTT ENVIRONMENTAL TECHNOLOGY INC.  
 USAF TURBINE ENGINE EMISSIONS INVENTORY  
 CONCENTRATION EDIT REPORT  
 SET 1628-001-1077  
 8/ 9/77  
 F100 # 680325  
 REPORT DATE 10/24/77  
 USAF CONTRACT #06635-77-0216  
 FIELD TEST 2

MODE-POINT : 4-07									
SPAN/ZERO ADJ.	TIME : 1000	PROBE POS. : -30	PRESS. : 34.12 PSIA	AVERAGE :	CONCENTRATION :	SPAN/ZERO ADJ.	TIME : 1002	PROBE POS. : -30	PRESS. : 34.85 PSIA
THC	NOX	CO-HI	CO-LO	CO2	TEMP	THC	NOX	CO-HI	CO-LO
RNG VOLTS	RNG VOLTS	RNG VOLTS	RNG VOLTS	RNG VOLTS	INPUT REFER	RNG VOLTS	RNG VOLTS	RNG VOLTS	RNG VOLTS
.96 .0125	1.01 .0071	1.10 .0080	.97 .0254	1.04 .0000	160.5	.96 .0128	1.01 .0021	1.11 .0080	.97 .0266
10.30 .8130	250.00 .5023	250.00 .2147	1 .5226	3 .4345	160.9	10.00 .5206	1000.00 .2514	250.00 .5711	1 .6724
.8115	.5024	.2176	.5227	.4293	82.3	.5053	.2526	.5721	.6721
.8221	.5075	.2165	.5261	.4316	82.3	.5329	.2520	.5768	.6794
.8115	.5051	.2198	.5127	.4306	82.3	.5172	.2504	.5760	.6772
.8099	.5045	.2116	.5241	.4309	82.2	.5154	.2469	.5710	.6786
.8136	.5044	.2160	.5217	.4314	82.3	.5183	.2506	.5734	.6714
406.79 PPMC	126.39 PPMV	54.01 PPMV	504.57 PPMV	1.91 VOL	655.7 DEG.F	259.14 PPMC	250.64 PPMV	143.35 PPMV	684.59 PPMV
MODE-POINT : 4-08									
SPAN/ZERO ADJ.	TIME : 1002	PROBE POS. : -30	PRESS. : 34.85 PSIA	AVERAGE :	CONCENTRATION :	SPAN/ZERO ADJ.	TIME : 1002	PROBE POS. : -30	PRESS. : 34.85 PSIA
THC	NOX	CO-HI	CO-LO	CO2	TEMP	THC	NOX	CO-HI	CO-LO
RNG VOLTS	RNG VOLTS	RNG VOLTS	RNG VOLTS	RNG VOLTS	INPUT REFER	RNG VOLTS	RNG VOLTS	RNG VOLTS	RNG VOLTS
.96 .0128	1.01 .0021	1.11 .0080	.97 .0266	1.04 .0001	236.2	.96 .0128	1.01 .0021	1.11 .0080	.97 .0266
10.00 .5206	1000.00 .2514	250.00 .5711	1 .6724	3 .4343	237.7	10.00 .5206	1000.00 .2514	250.00 .5711	1 .6724
.5053	.2526	.5721	.6721	.4129	82.0	.5053	.2526	.5721	.6721
.5329	.2520	.5768	.6794	.4123	82.0	.5172	.2504	.5760	.6772
.5172	.2504	.5760	.6772	.4147	81.9	.5154	.2469	.5710	.6786
.5154	.2469	.5710	.6786	.4137	82.0	.5183	.2506	.5734	.6714
236.7	1256.2	655.7	1256.2	655.7	DEG.F	236.7	1256.2	655.7	1256.2

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SCOTT ENVIRONMENTAL TECHNOLOGY INC.  
USAF TURBINE ENGINE EMISSIONS INVENTORY  
CONCENTRATION EQIT REPORT SCOTT TEST 2, TYPE A  
8/ 9/77 F100 4 680325 WPB  
SET 1628-001-1077 REPORT DATE 10/24/77  
USAF CONTRACT F08635-77-0216 FIELD TEST 2

SET 1628-001-1077

REPORT DATE 10/24/77

USAF TURBINE ENGINE EMISSIONS INVENTORY  
CONCENTRATION EOI REPORT

SCOTT YES! 2, TYPE A

**3013**

680325 WPB

**FIELD TEST 2**

MODE-POINT : 9-09

**SPAN/ZERO ADJ.**

**SAMPLE DATA :**

TIME = 1000

PROBE POS. : -30

**-5.03 IN.**

PRSS.: 35-95 P 51A

**AVERAGE :**

**CONCENTRATION :**

MODE-POINT : 4-10

SPAM/ZERO ADJ.

**SAMPLE DATA :**

TIME : 1007

PROBE POS.: -30

5-16 IN.

**PRESS: 34.87 PSI**

**AVENUE :**

**CONCENTRATION :**

♦♦ NOTE ♦♦ DATA MARKED WITH AN ASTERISK (\*) NOT INCLUDED IN AVERAGE

SCOTT ENVIRONMENTAL TECHNOLOGY INC.  
USAF TURBINE ENGINE EMISSIONS INVENTORY  
CONCENTRATION EDIT REPORT

SET 1628-001-1077

REPORT DATE 10/24/77  
USAF CONTRACT F08635-77-0216  
FIELD TEST 2

SCOTT TEST 2, TYPE A 8/ 9/77 F100 M 6A0325 WPU

--- TMC ---	--- MOX ---	--- NO ---	--- CO-HI ---	--- CO-LO ---	--- CO2 ---	--- TEMP ---
PMG VOLTS	PMG VOLTS	PMG VOLTS	PMG VOLTS	PMG VOLTS	PMG VOLTS	INPUT REFER

MODE-POINT : 4-11

SPAN/ZERO ADJ.

SAMPLE DATA :

TIME : 1010

PROBE POS.: -30

8.74 IN.

PRESS.: 26.22 PSIA

AVERAGE :

CONCENTRATION :

MODE-POINT : 4-12

SPAN/ZERO ADJ.

SAMPLE DATA :

TIME : 1012

PROBE POS.: -30

11.14 IN.

PRESS.: 22.54 PSIA

AVERAGE :

CONCENTRATION :

NOTE : DATA MARKED WITH AN ASTERISK (\*) NOT INCLUDED IN AVERAGE

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SCOTT ENVIRONMENTAL TECHNOLOGY INC.  
USAF TURBINE ENGINE EMISSIONS INVENTORY  
CONCENTRATION COIT REPORT

SET 1628-001-1077

REPORT DATE 10/20/77  
USAF CONTRACT F08635-77-0216  
WPB

SCOTT TEST 2, TYPE A

P/ 9/77 F100

FIELD TEST 2

THC		NOX		NO		CO-HI		CO-LO		CO2		TEMP	
RNG	VOLTS	RNG	VOLTS	RNG	VOLTS	RNG	VOLTS	RNG	VOLTS	RNG	VOLTS	INPUT	REFER
.96	.1181	1.01	.0022	1.08	.0045	.94	.0010	.95	.0464	1.02	.0051	238.2	61.4
1.00	.0851	1000.00	.3600	1000.00	.3090	3	.0766	2	.2468	2	.5914	238.3	61.5
	.0562		.3602		.3079		.0792		.2438		.5930	238.3	61.5
	.1303		.3603		.3104		.0753		.2516		.5917	238.3	61.5
	.0440		.3622		.3095		.0764		.2411		.5917	238.2	61.5
	.0451		.3640		.3073		.0763		.2410		.5915	238.4	61.6
	.0721		.3613		.3088		.0768		.2449		.5918	238.3	61.5
3.61 PPMC		361.31 PPMV		308.82 PPMV		52.14 PPMV		72.29 PPMV		4.05 3 VOL		1267.7 DEG.F	

MODE-POINT : 4-13

SPAN/ZERO ADJ.

SAMPLE DATA :

TIME : 947

PROBE POS.: 30

.07 IN.

PRESS.: 34.39 PSIA

AVERAGE :

CONCENTRATION :



SCOTT ENVIRONMENTAL TECHNOLOGY INC. SET 1626-001-1077 REPORT DATE 10/24/77  
 USAF TURBINE ENGINE EMISSIONS INVENTORY SCOTT TEST 2, TYPE A 8/ 9/77 F100 # 680325 USAF CONTRACT F0635-77-0216  
 CONCENTRATION EDIT REPORT

# CALIBRATION DATA FOR PERIOD 1019 TO 1211

## NON-LINEAR INSTRUMENTS :

REFERENCE CURVES CALIBRATION DATE : 7/22/77

	CO - HI	CO - LO	CO2
	PERIOD START	PERIOD START	PERIOD START
	PERIOD END	PERIOD END	PERIOD END
RANGE 1			
SPAN ADJ. FACTOR	.9764	1.0024	1.0416
ZERO READING	.0033	.0490	.0015
RANGE 2			
SPAN ADJ. FACTOR	.9900	1.0062	1.0405
ZERO READING	.0036	.0617	.0029
RANGE 3			
SPAN ADJ. FACTOR	.9824	.6468	1.0628
ZERO READING	.0045	.1153	.0009

## LINEAR INSTRUMENTS :

	TMC	NOX	NO
	PERIOD START	PERIOD START	PERIOD START
	PERIOD END	PERIOD END	PERIOD END
SPAN ADJ. FACTOR	.9527	1.0226	1.0349
ZEROS FOR RANGES (TMC) (NOX/NO)			
1 1.0 2.5	.1611	.8123	1.3718
2 5.0 10.0	.0306	.2031	.3429
3 10.0 25.0	.0158	.0812	.1372
4 50.0 100.0	.0031	.0167	.0276
5 100.0 250.0	.0016	.0088	.0124
6 500.0 1000.0	.0003	.0020	.0044
7 1000.0 2500.0	.0002	.0008	.0014
8 5000.0 10000.0	.0000	.0002	.0003

## SPAN GAS CONCENTRATIONS :

	TMC-PPHC	NOX-PPH	NO-PPH	CO-HI-PPH	CO-LO-PPH	CO2-2
SPAN 1	24.48	19.70	19.70	245.00	78.40	4.49
SPAN 2	417.00	90.40	90.40	2400.00	245.00	6.40
SPAN 3	4620.00					

TOT. PRESS. FACT. 1.600, ADJ. .00  
 SAMPLE PROBE TYPE - TF  
 THERMOCOUPLE TYPE - IR

\*\* NOTE \*\* DATA MARKED WITH AN ASTERISK (\*) NOT INCLUDED IN AVERAGE

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THC	NUX	NO	CO-HI	CO-LO	CO2	TEMP
RNG VOLTS	RNG VOLTS	RNG VOLTS	RNG VOLTS	RNG VOLTS	RNG VOLTS	INPUT REFER

MODE-POINT : 5-01

SPAN/ZERO ADJ. .97 .1728 1.01 .0096 1.14 .0084 .96 .0126 1.05 .0642 1.06 .0076

SAMPLE DATA :  
 TIME : 1031 250.00 .5219 250.00 .3351 1 1.1489 1 2.1309 1 .7326 .0\*

PROBE POS.: +30 .4993 .5140 .3215 1.1649 2.1593 .7303 .0\*

-14.14 IN. .2229 .5159 .3224 1.1499 2.1515 .7308 .0\*

PRESS.: 31.38 PSIA .2223 .5141 .3226 1.1372 2.1542 .7308 .0\*

.2726 .5156 .3254 1.1668 2.1727 .7306 .0\*

AVERAGE : .3044 .5163 .3254 1.1535 2.1537 .7310 .0

CONCENTRATION : 15.22 PPMC 129.07 PPMV 81.35 PPMV 7595.76 PPMV .00 PPMV 12.51 VOL .0 DEG.F

MODE-POINT : 5-02

SPAN/ZERO ADJ. .97 .0016 1.02 .0096 1.14 .0084 .96 .0145 1.07 .0697 1.07 .0068

SAMPLE DATA :  
 TIME : 1033 100.00 .9110 250.00 .6630 250.00 .5521 1 1.5076 1 2.6713 1 .6490 .0\*

PROBE POS.: +30 .8742 .6572 .5607 1.5079 2.6712 .6491 .0\*

-10.89 IN. .8782 .6375 .5604 1.5087 2.6713 .6504 .0\*

PRESS.: 33.24 PSIA .9113 .6337 .5604 1.5081 2.6712 .6478 .0\*

.8711 .6209 .5607 1.5081 2.6710 .6506 .0\*

AVERAGE : .8892 .6424 .5589 1.5081 2.6712 .6494 .0

CONCENTRATION : 4445.85 PPMC 160.61 PPMV 139.72 PPMV 10708.32 PPMV .00 PPMV 9.69 VOL .0 DEG.F

\*\* NOTE \*\* DATA MARKED WITH AN ASTERISK (\*) NOT INCLUDED IN AVERAGE

REPORT DATE 10/24/77  
 USAF CONTRACT F08635-77-0216  
 FIELD TEST 2  
 SET 1025-001-1077  
 FILE 8 60325  
 SCOTT ENVIRONMENTAL TECHNOLOGY INC.  
 USAF TURBINE ENGINE EMISSIONS INVENTORY  
 CONCENTRATION EUT REPORT  
 SCOTT TEST 2, TYPE A 8/7/77

--- IMC ---		--- VOR ---		--- MC ---		--- COM1 ---		--- COM2 ---		--- TEMP. ---	
ENG	VOLTS	ENG	VOLTS	ENG	VOLTS	ENG	VOLTS	ENG	VOLTS	INPUT	REFER
MODE-POINT : 5-03											
SPAN/ZERO ADJ.											
SAMPLE DATA :											
TIME : 1015											
PROBE POS.: 10											
PRESS.: 31.27 PSIA											
AVERAGE :											
CONCENTRATION :											
MODE-POINT : 5-04											
SPAN/ZERO ADJ.											
SAMPLE DATA :											
TIME : 1019											
PROBE POS.: 10											
PRESS.: 31.34 PSIA											
AVERAGE :											
CONCENTRATION :											

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SCOTT ENVIRONMENTAL TECHNOLOGY INC. REPORT DATE 10/24/77  
USAF TURBINE ENGINE EMISSIONS INVENTORY USAF CONTRACT F08635-77-0216  
CONCENTRATION EDIT REPORT SCOTT TEST 2, TYPE A 4/ 4/77 FICD 8 680325 WPB FIELD TEST 2

MODE-POINT : 5-05

SPAN/ZERO ADJ. .98 .0030 1.02 .0031 1.14 .0024 .94 .0206 1.13 .0673 1.04 .0127  
SAMPLE DATA :  
TIME : 1041 50.00 .2015 1000.00 .2156 250.00 .6563 1 1.5079 1 2.7906 1 2.7906 .6881  
PROBE POS.: 30 .1935 .2129 .2048 .6442 1.5063 2.7906 .6868  
11.03 IN. .2027 .2098 .6365 1.5081 2.7906 .6888  
PRESS.: 33.50 PSIA .2081 .2122 .6575 1.5087 2.7906 .6904  
.2166 .2112 1.5086 2.7905 .6867  
AVERAGE : .2045 .2123 .6504 1.5063 2.7905 .6882  
CONCENTRATION : 511.24 PPMC 212.31 PPMV 162.63 PPMV 10709.85 PPMV .00 PPMV 10.97 VOL .0 DEG.F

MODE-POINT : 5-06

SPAN/ZERO ADJ. .98 .1845 1.02 .0104 1.14 .0084 .94 .0220 1.14 .0914 1.04 .0136  
SAMPLE DATA :  
TIME : 1043 1.00 .0490 250.00 .3465 250.00 .1582 1 2.2093 1 2.2093 .5963  
PROBE POS.: 30 .0512 .3414 .1662 1.5094 2.2044 .6016  
14.11 IN. .0466 .3370 .1607 2.1963 .5938  
PRESS.: 29.58 PSIA .0427 .3400 .1629 2.1913 .5976  
.0357 .3447 .1660 2.1892 .6036  
AVERAGE : .0450 .3407 .1624 2.1981 .5966  
CONCENTRATION : 2.25 PPMC 85.18 PPMV 46.70 PPMV 3947.15 PPMV .00 PPMV 8.22 VOL .0 DEG.F

\*\* NOTE \*\* DATA MARKED WITH AN ASTERISK (\*) NOT INCLUDED IN AVERAGE

REPORT DATE 12/24/77  
USAF CONTRACT F0635-77-C216  
WPH  
FILED TEST 2

SCOTT TEST 2, TYPE A

CONCENTRATION =

.. NOTE .. DATA MARKED WITH AN ASTERISK (\*) NOT INCLUDED IN AVERAGE

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SCOTT ENVIRONMENTAL TECHNOLOGY INC.  
USAF TURBINE ENGINE EMISSIONS INVENTORY  
CONCENTRATION EDIT REPORT

SET 1628-001-1077

REPORT DATE 10/29/77  
USAF CONTRACT F08635-77-0216  
FIELD TEST 2

SCOTT TEST 2 TYPE A M/ 9/77 F100 # 680325

--- TMC ---	--- NO ---	--- CO-HI ---	--- CO-LO ---	--- CO2 ---	--- TEMP. ---
RNG VOLTS	RNG VOLTS	RNG VOLTS	RNG VOLTS	RNG VOLTS	INPUT REFER

MODE-POINT : 5-09

SPAN/ZERO ADJ.

SAMPLE DATA :

TIME : 1052

PROBE POS.: -30

-6.31 IN.

PRESS.: 31.24 PSIA

AVERAGE :

CONCENTRATION :

MODE-POINT : 5-10

SPAN/ZERO ADJ.

SAMPLE DATA :

TIME : 1054

PROBE POS.: -30

6.42 IN.

PRESS.: 31.31 PSIA

AVERAGE :

CONCENTRATION :

\*\* NOTE \*\* DATA MARKED WITH AN ASTERISK (\*) NOT INCLUDED IN AVERAGE

SCOTT ENVIRONMENTAL TECHNOLOGY INC. REPORT DATE 10/24/77  
 USAF TURBINE ENGINE EMISSIONS INVENTORY USAF CONTRACT F08635-77-0216  
 CONCENTRATION EDIT REPORT SCOTT TEST 2, TYPE A P/ 4/77 FIC0 # 680325 WPA FIELD TEST 2

THC	NOX	NO	CO-HI	CO-LO	CO2	TEMP
RNG VOLTS	RNG VOLTS	RNG VOLTS	RNG VOLTS	RNG VOLTS	RNG VOLTS	INPUT REFER

MODE-POINT : 5-11

SPAN/ZERO ADJ.

SAMPLE DATA :

TIME : 1056

PROBE POS.: -30

11.06 IN.

PRESS.: 52.64 PSIA

AVERAGE :

CONCENTRATION :

MODE-POINT : 5-12

SPAN/ZERO ADJ.

SAMPLE DATA :

TIME : 1058

PROBE POS.: -30

14.15 IN.

PRESS.: 20.23 PSIA

AVERAGE :

CONCENTRATION :

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USAF TURBINE ENGINE EMISSIONS INVENTORY  
CONCENTRATION EDIT REPORT

SET 1628-001-1077

REPORT DATE 10/24/77  
USAF CONTRACT F06635-77-0216  
MPH 680325  
FIELD TEST 2

SCOTT TEST 2, TYPE A

F100

TMC		MUX		NO		CO-HI		CO-LO		CO2		TEMP	
RNG	VOLTS	RNG	VOLTS	RNG	VOLTS	RNG	VOLTS	RNG	VOLTS	RNG	VOLTS	INPUT	REFER
-98 .1786		1.02 .0029		1.14 .0084		.95 .0173		1.10 .0776		1.07 .0106			
1.00 .1697		1000.00		750.00 1.0055		1 1.4885		1 2.4349		1 .7561		.00	
.1387		.3210		.9985		1.4913		2.4326		.7561		.00	
.1079		.3176		.9984		1.4816		2.4523		.7541		.00	
.1014		.3220		1.0042		1.4984		2.4665		.7543		.00	
.0716		.3210		1.0058		1.4829		2.4711		.7540		.00	
.1179		.3206		1.0025		1.4845		2.4515		.7549		.0	
5.89 PPMC		320.60 PPMV		250.62 PPMV		10543.70 PPMV		.00 PPMV		13.43 VOL		.0 DEEF	

MODE-POINT : 5-13

SPAN/ZERO ADJ.

SAMPLE DATA :

TIME : 1037

PROBE POS: 1 +30

.07 IN.

PRESS.: 31.08 PSIA

AVERAGE :

CONCENTRATION :

\*\* NOTE \*\* DATA MARKED WITH AN ASTERISK (\*) NOT INCLUDED IN AVERAGE

8FIN

STOP CONC



REPORT DATE 10/24/77  
USAF CONTRACT F08635-77-C216  
FIELD TEST 3

SLE 1626-001-1077  
8/18/77  
F100

SCOTT ENVIRONMENTAL TECHNOLOGY INC.  
USAF TURBINE ENGINE EMISSIONS INVENTORY  
SCOTT TEST 3, TYPE A  
CONCENTRATION EOT REPORT

CALIBRATION DATA FOR PERIOD 1047 TO 1155  
REFERENCE CURVES CALIBRATION DATE : 7/22/77

# NON-LINEAR INSTRUMENTS :

	CO - HI	CO - LO	CO2
	PERIOD START	PERIOD START	PERIOD START
	PERIOD END	PERIOD END	PERIOD END
RANGE 1			
SPAN ADJ. FACTOR	1.0134		
SPAN ADJ. FACTOR	.0039		
ZERO READING			
RANGE 2			
SPAN ADJ. FACTOR	1.0197		
SPAN ADJ. FACTOR	.0047		
ZERO READING			
RANGE 3			
SPAN ADJ. FACTOR	-.0071		
SPAN ADJ. FACTOR	.0085		
ZERO READING			

# LINEAR INSTRUMENTS :

	THC	NOX	NO
	PERIOD START	PERIOD START	PERIOD START
	PERIOD END	PERIOD END	PERIOD END
SPAN ADJ. FACTOR	.9107		
ZEROS FOR RANGES			
(THC) (NOX/NO)			
1	1.0		
2	5.0		
3	10.0		
4	50.0		
5	100.0		
6	500.0		
7	1000.0		
8	5000.0		

# SPAN GAS CONCENTRATIONS :

	THC-PPM	NOX-PPM	CO-HI-PPM	CO-LO-PPM	CO2-1
SPAN 1	24.48	19.70	245.00	78.4C	4.49
SPAN 2	417.00	90.46	2400.00	245.00	6.90
SPAN 3	4620.00				

\*\* NOTE \*\*

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CONCENTRATION EDIT REPORT

SET 1626-DUJ-1077

REPORT DATE 10/24/77  
USAF CONTRACT F06635-77-0216  
MPH

F100 680301

3 TYPE A

SCOTT TEST

CONCENTRATION EDIT REPORT

TIME	YMC	NOX	NO	CO-HI	CO-LO	CO2	TEMP
RMG VOLTS	RMG VOLTS	RMG VOLTS	RMG VOLTS	RMG VOLTS	RMG VOLTS	RMG VOLTS	INPUT REFER

MODE-POINT : 4-01

SPAN/ZERO ADJ.

SAMPLE DATA :

TIME : 1113

PROBE POS.: 30

-11.69 IN.

PRESS.: 31.00 PSIA

AVERAGE :

CONCENTRATION :

MODE-POINT : 4-02

SPAN/ZERO ADJ.

SAMPLE DATA :

TIME : 1116

PROBE POS.: 30

-8.62 IN.

PRESS.: 35.05 PSIA

AVERAGE :

CONCENTRATION :

NOTE \*\* DATA MARKED WITH AN ASTERISK (\*) NOT INCLUDED IN AVERAGE

SCOTT ENVIRONMENTAL TECHNOLOGY INC.  
 USAF TURBINE ENGINE EMISSIONS INVENTORY  
 CONCENTRATION EDIT REPORT

SET 1824-001-1077

REPORT DATE 10/24/77  
 USAF CONTRACT F08635-77-0216  
 MPB

FICD # 660301

8/18/77

SCOTT TEST 3, TYPE A

FIELD TEST 3

MODE-POINT : 4-03

SPAN/ZERO ADJ.

SAMPLE DATA :

TIME : 1119

PROBE POS.: +30

-9.94 IN.

PRESS.: 35.60 PSIA

AVERAGE :

CONCENTRATION :

MODE-POINT : 4-04

SPAN/ZERO ADJ.

SAMPLE DATA :

TIME : 1124

PROBE POS.: +30

5.01 IN.

PRESS.: 35.27 PSIA

AVERAGE :

CONCENTRATION :

RNG	VOLTS	RNG	VOLTS	NO	RNG	VOLTS	CU-HI	RNG	VOLTS	CU-LO	RNG	VOLTS	CU2	RNG	VOLTS	TEMP.	REFER
0.02	0.0574	1.00	0.029	1.15	0.071	0.012	0.013	0.05	0.028	0.05	0.028	0.05	0.028	0.05	0.028	255.4	82.5
5.00	0.0624	1000.00	0.025	1000.00	0.363	0.363	0.363	0.363	0.363	0.363	0.363	0.363	0.363	0.363	0.363	255.4	82.5
	0.0590		0.033		0.355		0.355		0.355		0.355		0.355		0.355	255.4	82.5
	0.0634		0.0464		0.337		0.337		0.337		0.337		0.337		0.337	255.4	82.5
	0.0538		0.0467		0.355		0.355		0.355		0.355		0.355		0.355	255.4	82.5
	0.0570		0.0431		0.384		0.384		0.384		0.384		0.384		0.384	255.4	82.5
	0.0514		0.0473		0.380		0.380		0.380		0.380		0.380		0.380	255.4	82.5
	0.0578		0.0445		0.364		0.364		0.364		0.364		0.364		0.364	255.4	82.5
	14.46 PPMC		444.53 PPMV		336.49 PPMV		0.00 PPMV		228.98 PPMV		5.16 VOL		0.0891		1409.9 DEG.F		

0.02	0.0595	1.05	0.031	1.15	0.072	0.015	0.015	0.06	0.030	0.06	0.030	0.06	0.030	0.06	0.030	256.6	82.9
5.00	0.0603	1000.00	0.361	1000.00	0.237	0.237	0.237	0.237	0.237	0.237	0.237	0.237	0.237	0.237	0.237	256.6	82.9
	0.3881		0.3594		0.2371		0.2371		0.2371		0.2371		0.2371		0.2371	256.6	82.9
	0.4098		0.3581		0.2344		0.2344		0.2344		0.2344		0.2344		0.2344	256.6	82.9
	0.4018		0.3562		0.2387		0.2387		0.2387		0.2387		0.2387		0.2387	256.6	82.8
	0.4156		0.3616		0.2350		0.2350		0.2350		0.2350		0.2350		0.2350	256.6	82.8
	0.4067		0.3597		0.2360		0.2360		0.2360		0.2360		0.2360		0.2360	256.6	82.9
	101.18 PPMC		359.67 PPMV		235.49 PPMV		9.91 PPMV		536.73 PPMV		4.59 VOL		0.9160		1421.3 DEG.F		

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 USAF TURBINE ENGINE EMISSIONS INVENTORY  
 CONCENTRATION EDIT PE'URT  
 SET 1628-001-1077  
 8/18/77  
 FICO # 640301  
 USAF CONTRACT F08635-77-0216  
 WPB  
 REPORT DATE 10/24/77  
 FIELD TEST 3

SCOTT TEST 3, TYPE A

MODE-POINT : 4-05

SPAN/ZERO ADJ.

SAMPLE DATA :

TIME : 1127

PROBE POS.: +10

8.72 IN.

PRESS.: 34.69 PSIA

AVERAGE :

CONCENTRATION :

MODE-POINT : 4-06

SPAN/ZERO ADJ.

SAMPLE DATA :

TIME : 1130

PROBE POS.: +10

11.19 IN.

PRESS.: 24.57 PSIA

AVERAGE :

CONCENTRATION :

THC	NO	CO-M1	CO-LO	CO2	TEMP
RNG VOLTS	RNG VOLTS	RNG VOLTS	RNG VOLTS	RNG VOLTS	INPUT REFER
.92 9236	1.05 .0031	1.15 .0072	.96 .0140	1.06 .0033	
10.00 .4682	1000.00 .1625	1000.00 .0759	1 .4855	3 .5579	202.1 82.5
.4775	.1631	.0754	.4888	.5558	201.2 82.5
.4818	.1617	.0741	.4901	.5545	201.0 82.4
.4722	.1622	.0735	.4923	.5602	202.0 82.4
.4782	.1620	.0743	.4887	.5527	201.1 82.5
.4756	.1621	.0746	.4891	.5562	201.5 82.5
237.78 PPMC	162.33 PPMV	74.63 PPMV	464.07 PPMV	2.49 1 VOL	973.7 OEG.F
.92 .0241	1.04 .0147	1.14 .0104	.97 .0363	1.06 .0035	
10.00 .2943	100.00 .7885	100.00 .3778	2 .6332	3 .2903	124.0 82.9
.2853	.7914	.3769	.6346	.2891	124.2 83.0
.2995	.8090	.3818	.6270	.2920	124.0 83.0
.2968	.8003	.3777	.6445	.2883	124.7 83.1
.2421	.8086	.3787	.6258	.2906	124.1 83.1
.2936	.7996	.3786	.6330	.2901	124.2 83.0
146.80 PPMC	79.96 PPMV	37.86 PPMV	202.96 PPMV	1.27 1 VOL	344.4 OEG.F

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SCOTT ENVIRONMENTAL TECHNOLOGY INC.  
 USAF TURBINE ENGINE EMISSIONS INVENTORY  
 CONCENTRATION EDIT REPORT

SET 1628-C01-1077

REPORT DATE 10/28/77  
 USAF CONTRACT F08635-77-0216  
 WPM FIELD TEST 3

F100 # 680301

W/16/77 3,TYPE A

THC	NOK	NO	CO-HI	CO-LO	CO2	TEMP
RNG VOLTS	RNG VOLTS	RNG VOLTS	RNG VOLTS	RNG VOLTS	RNG VOLTS	INPUT REFER

MODE-POINT : 4-07

SPAN/ZERO ADJ.

SAMPLE DATA :

TIME : 1137

PROBE POS.: -30

-12.14 IN.

PRESS.: 34.15 PSIA

AVERAGE :

CONCENTRATION :

MODE-POINT : 4-08

SPAN/ZERO ADJ.

SAMPLE DATA :

TIME : 1139

PROBE POS.: -30

-9.56 IN.

PRESS.: 34.64 PSIA

AVERAGE :

CONCENTRATION :

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USAF TURBINE ENGINE EMISSIONS INVENTORY  
CONCENTRATION EPT REPORT

SET 1628-001-1077

REPORT DATE 10/24/77  
USAF CONTRACT F08635-77-0216  
FIELD TEST 3

SCOTT TEST 3, TYPE A

8/16/77

F100 8 680301

THC		NO		CO-HI		CO-LO		CO2		TEMP	
RNG	VOLTS	RNG	VOLTS	RNG	VOLTS	RNG	VOLTS	RNG	VOLTS	INPUT	REFER

MODE-POINT : 4-09

SPAN/ZERO A1J-

SAMPLE DATA :

TIME : 1141

PROBE POS.: -30

-5.91 IN.

PRESS.: 36.02 PSIA

AVERAGE :

CONCENTRATION :

MODE-POINT : 4-10

SPAN/ZERO ADJ-

SAMPLE DATA :

TIME : 1144

PROBE POS.: -30

4.03 IN.

PRESS.: 34.09 PSIA

AVERAGE :

CONCENTRATION :

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USAF TURBINE ENGINE EMISSIONS INVENTORY  
CONCENTRATION EDIT REPORT

SET 1628-001-1077

REPORT DATE 10/24/77  
USAF CONTRACT F08635-77-C216  
FIELD TEST 3

SCOTT TEST 3, TYPE A

8/16/77

F100 # 68G301

--- TMC ---	--- MOX ---	--- NO ---	--- CO-H1 ---	--- CO-L0 ---	--- CO2 ---	--- TEMP ---
RNG VOLTS	RNG VOLTS	RNG VOLTS	RNG VOLTS	RNG VOLTS	RNG VOLTS	INPUT REFER

MODE-POINT : 9-11

SPAN/ZERO ADJ.  
SAMPLE DATA :  
TIME : 1146  
PROBE POS.: -30  
7.64 IN.  
PRESS.: 30.29 PSIA

AVERAGE :  
CONCENTRATION :

MODE-POINT : 9-12

SPAN/ZERO ADJ.  
SAMPLE DATA :  
TIME : 1148  
PROBE POS.: -30  
10.18 IN.  
PRESS.: 22.90 PSIA

AVERAGE :  
CONCENTRATION :

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USAF TURBINE ENGINE EMISSIONS INVENTORY  
CONCENTRATION EDIT REPORT

SET 1628-001-1077

REPORT DATE 10/24/77  
USAF CONTRACT FOR 635-77-6210  
LPH

SCOTT TEST 3 TYPE A 8/18/77 F100 8 680301

FIELD TEST 3

0----	THC	0----	NOX	0----	NO	0----	CO-HI	0----	CO-LO	0----	CO2	0----	TEMP
RNG	VOLTS	RNG	VOLTS	RNG	VOLTS	RNG	VOLTS	RNG	VOLTS	RNG	VOLTS	INPUT	REFER

MODE-POINT : 4-13

SPAN/ZERO ADJ.

SAMPLE DATA :

TIME : 1122

PROBE POS.: 430

.05 IN.

PRESS.: 35.00 PSIA

AVERAGE :

CONCENTRATION :

0.92	-3102	1.05	-0030	1.15	-0072	-0.61	-0103	0.97	-0310	1.05	-0030		
1.00	-0217	1000.00	-0205	1000.00	-3446	3	-3042	2	-2936	3	-0749	236.7	82.4
	-0104		-0200		-3439		-3044		-2865		-0417	236.8	82.4
	-0353		-0205		-3440		-3047		-2826		-0826	236.7	82.4
	-0294		-0204		-3443		-3017		-2633		-0801	236.8	82.4
	-0269		-0194		-3433		-3022		-2636		-0813	236.9	82.5
	-0247		-0201		-3440		-3035		-2800		-0812	236.8	82.4
1.24	PPMC	420.15	PPMV	344.04	PPMV	0.00	PPMV	85.49	PPMV	0.34	3 VOL	1256.6	DEF.F



SCOTT ENVIRONMENTAL TECHNOLOGY INC.  
USAF TURBINE ENGINE EMISSIONS INVENTORY  
CONCENTRATION EDIT REPORT

SET 1828-001-1077  
DATE 11/27/77  
FIELD # 060301

REPORT DATE 10/24/77  
USAF CONTRACT F0625-77-0216  
FIELD TEST 3

CALIBRATION DATA FOR PERIOD 1155 TO 1734

NON-LINEAR INSTRUMENTS :

REFERENCE CURVES CALIBRATION DATE : 11/27/77

	CO - HI	PERIOD START	PERIOD END	CO - LO	PERIOD START	PERIOD END	CO	PERIOD START	PERIOD END
<b>RANGE 1</b>									
SPAN ADJ. FACTOR	4.7454		.9690	.9516		.9590		1.0076	1.0013
ZERO READING	.0065		-.0011	.0227		-.0053		.0002	-.0003
<b>RANGE 2</b>									
SPAN ADJ. FACTOR	1.0197		.9724	.9672		.9677		1.1946	1.0039
ZERO READING	.0068		-.0021	.0596		-.0170		-.0055	-.0011
<b>RANGE 3</b>									
SPAN ADJ. FACTOR	-.6071		.8631	.8657		.8902		1.0980	1.0087
ZERO READING	.0120		-.0102	.1706		-.0449		-.0051	-.0049

LINEAR INSTRUMENTS :

	TMC	PERIOD START	PERIOD END	NOX	PERIOD START	PERIOD END	NO	PERIOD START	PERIOD END
<b>SPAN ADJ. FACTOR</b>									
	.9311		.9821	1.0206		1.0641		1.0123	1.0667

ZEROES FOR RANGES  
(TMC) (NOX/NO)

	1.0	2.5	3797	1.1122	.3209	1.4376	1.2244
1	5.0	10.0	.0712	.2781	.9802	.7594	.7061
2	10.0	25.0	.0278	.1112	.0321	.1439	.1224
3	50.0	100.0	.0068	.0210	.0017	.0115	.0067
4	100.0	250.0	.0034	.0096	.0016	.0068	.0067
5	500.0	1000.0	.0007	.0036	.0018	.0074	.0068
6	1000.0	2500.0	.0003	.0011	.0007	.0034	.0017
7	5000.0	10000.0	.0001	.0003	.0001	.0014	.0003

SPAN GAS CONCENTRATIONS :

	TMC-PPHC	NOX-PPH	NO-PPH	CO-HI-PPH	CO-LO-PPH	CO2-2	
<b>SPAN 1</b>	24.48	19.70	19.70	245.00	78.40	4.49	101-PRESS-FACT. 1.000, ADJ.
<b>SPAN 2</b>	417.00	90.40	90.40	2400.00	245.00	6.90	SAMPLE PROBE TYPE - TP
<b>SPAN 3</b>	4620.00						THERMOCOUPLE TYPE - IR

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USAF TURBINE ENGINE EMISSIONS INVENTORY  
CONCENTRATION EDIT REPORT

SET 1628-001-1077

SCOTT TEST 3, TYPE A

FICU

# 6A0301

MPV

REPORT DATE 10/24/77  
USAF CONTRACT F04635-77-C216  
FIELD TEST 3

CALIBRATION DATA FOR PERIOD 1234 TO 1335

NON-LINEAR INSTRUMENTS :

REFERENCE CURVES CALIBRATION DATE : 7/22/77

	CO - HI		CO - LO		CO		CO2	
	PERIOD START	PERIOD END	PERIOD START	PERIOD END	PERIOD START	PERIOD END	PERIOD START	PERIOD END
RANGE 1								
SPAN ADJ.FACTOR	.9690	1.1213	.9590	.9799	1.0013	1.0013	1.0013	1.2328
ZERO READING	-.0011	.1798	-.0053	.0483	-.0003	-.0003	-.0003	-.0967
RANGE 2								
SPAN ADJ.FACTOR	.9724	.8554	.9677	.8341	1.0034	1.0034	1.0034	1.0017
ZERO READING	-.0021	-.0021	-.0106	-.0106	-.0001	-.0001	-.0001	-.0001
RANGE 3								
SPAN ADJ.FACTOR	.8631	.8631	.8902	.8902	1.0067	1.0067	1.0067	1.0087
ZERO READING	-.0102	-.0102	-.0445	-.0445	-.0049	-.0049	-.0049	-.0049

LINEAR INSTRUMENTS :

	THC		NOX		PERIOD		PERIOD	
	PERIOD START	PERIOD END	PERIOD START	PERIOD END	PERIOD START	PERIOD END	PERIOD START	PERIOD END
SPAN ADJ.FACTOR	.9821	.9897	1.0641	1.0868	1.0667	1.0667	1.0667	1.0916
ZEROS FOR RANGES (THC) (NOX/NO)								
1	1.0	2.5	.2016	.2426	.3209	.5627	1.2244	1.2593
2	5.0	10.0	.0377	.0455	.0802	.1407	.3061	.3148
3	10.0	25.0	.0105	.0006	.0321	.0563	.1224	.1259
4	50.0	100.0	.0033	.0029	.0017	.0080	.0067	.0077
5	100.0	250.0	.0016	-.0019	.0016	.0039	.0067	.0071
6	500.0	1000.0	.0003	.0000	.0016	.0024	.0068	.0069
7	1000.0	2500.0	.0002	.0000	.0003	.0006	.0012	.0013
8	5000.0	10000.0	.0000	.0000	.0001	.0001	.0003	.0003

SPAN GAS CONCENTRATIONS :

	THC-PPMC	NOX-PPM	NO-PPM	CO-HI-PPM	CO-LO-PPM	CO2-2
SPAN 1	24.48	19.70	19.70	245.00	78.46	4.49
SPAN 2	917.00	90.40	90.40	2400.00	245.00	4.49
SPAN 3	4620.00					

TOT.PRESS.FACT. 1.000, Adj. .01  
SAMPLE PROBE TYPE - TP  
THERMOCOUPLE TYPE - IA

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SCOTT ENVIRONMENTAL TECHNOLOGY INC.  
USAF TURBINE ENGINE EMISSIONS INVENTORY  
CONCENTRATION EDIT REPORT

SLT 1625-001-1077

REPORT DATE 10/24/77  
USAF CONTRACT F08635-77-0216  
WPH

FIELD TEST 3

SCOTT TEST 3, TYPE A

W/16/77

F100

660301

MODE-POINT : 5-01

SPAN/ZERO ADJ.

SAMPLE DATA :

TIME : 1256

PROBE POS.: 30

-13.89 IN.

PRESS.: 32.73 PSIA

AVERAGE :

CONCENTRATION :

MODE-POINT : 5-02

SPAN/ZERO ADJ.

SAMPLE DATA :

TIME : 1259

PROBE POS.: 30

-10.73 IN.

PRESS.: 33.12 PSIA

AVERAGE :

CONCENTRATION :

TIME	NOX	NO	CO-HI	CO-LO	CO2	TEMP.
RNG VOLTS	RNG VOLTS	RNG VOLTS	RNG VOLTS	RNG VOLTS	RNG VOLTS	INPUT REFER
98 .0069	1.07 .0024	1.09 .0069	1.03 .0045	.97 .0142	1.09 .0349	
10.00 .1305	250.00 .6567	250.00 .4939	1 1.5194	1 2.4010	1 .7516	410.3 43.1
.1356	.6613	.4976	1.5194	2.3811	.7524	399.3 43.1
.1674	.6600	.4989	1.5195	2.3895	.7521	399.3 43.1
.1114	.6543	.4957	1.5200	2.4196	.7519	399.0 43.1
.1807	.6527	.4909	1.5202	2.4317	.7520	396.5 43.1
.1807	.5570	.4934	1.5198	2.4047	.7520	400.9 43.1
90.36 PPM	144.25 PPMV	123.35 PPMV	10815.95 PPMV	.00 PPMV	11.31 2 VOL	2787.8 DEG.F
99 .0031	1.07 .0026	1.08 .0069	1.03 .00734	.97 .0164	1.10 .0396	
50.00 .0478	250.00 1.0459	250.00 .8132	1 1.5225	1 2.4664	1 .6803	389.9 42.8
.0833	1.0124	.7834	1.5224	2.4664	.6769	394.1 42.8
.0956	1.0156	.7949	1.5220	2.4667	.6745	400.3 42.9
.0599	1.0162	.8016	1.5220	2.4666	.6748	402.0 42.8
.7563	.9861	.7769	1.5222	2.4666	.6771	404.2 42.7
.0486	1.0157	.7940	1.5222	2.4667	.6771	398.1 42.8
2121.38 PPMC	253.92 PPMV	196.50 PPMV	10826.57 PPMV	.00 PPMV	10.59 2 VOL	2759.6 DEG.F

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SCOTT ENVIRONMENTAL TECHNOLOGY INC.  
USAF TURBINE ENGINE EMISSIONS INVENTORY  
CONCENTRATION EDIT REPORT

SET 1628-001-1077  
SCOTT TEST 3,TYPE A

REPORT DATE 10/24/77  
USAF CONTRACT F08635-77-0216  
FIELD TEST 3

F100 # 680301

2/18/77

TMC		MIX		NO		CO-HI		CO-LO		CO2		TEMP	
RNG	VOLTS	RNG	VOLTS	RNG	VOLTS	RNG	VOLTS	RNG	VOLTS	RNG	VOLTS	INPUT	REFER

MODE-POINT : 5-03

SPAN/ZERO ADJ.		.99 .0081		1.07 .0021		1.04 .0069		1.04 .0184		1.10 .0425			
SAMPLE DATA :		10.00 .5527		1000.00 .3055		250.00 .9131		1 1.5250		1 .7207		474.4 82.7	
TIME : 1301		.5894		.3064		.9480		1.5244		.7228		460.5 82.7	
PROBE POS.: 30		.6355		.3161		.9577		1.5256		.7213		457.4 82.7	
-6.18 IN.		.6007		.3140		.9639		1.5252		.7205		450.1 82.8	
PRESS.: 27.35 PSIA		.5363		.3183		.9655		1.5244		.7183		542.6 82.9	
AVERAGE :		.5829		.3127		.9497		1.5250		.7207		477.0 82.8	
CONCENTRATION :		291.47 PPMC		312.71 PPMV		237.42 PPMV		10849.75 PPMV		12.13 % VOL		3687.7 DEG.F	

MODE-POINT : 5-04

SPAN/ZERO ADJ.		.99 .0052		1.08 .0022		1.08 .0069		1.05 .0947		1.12 .0511			
SAMPLE DATA :		10.00 .4440		1000.00 .3042		250.00 .9255		1 1.5277		1 .7300		487.2 82.9	
TIME : 1306		.3654		.3079		.9296		1.5280		.7294		487.3 82.8	
PROBE POS.: 30		.4812		.3006		.9100		1.5275		.7266		484.5 82.7	
6.24 IN.		.4284		.2966		.8986		1.5274		.7264		484.8 82.7	
PRESS.: 31.07 PSIA													
AVERAGE :		.4298		.3023		.9160		1.5277		.7286		485 82.8	
CONCENTRATION :		214.89 PPMC		302.34 PPMV		228.99 PPMV		10872.07 PPMV		12.41 % VOL		3612.7 DEG.F	

NOTE : DATA MARKED WITH AN ASTERISK (\*) NOT INCLUDED IN AVERAGE

REPORT DATE 10/24/77  
USAF CONTRACT F08635-77-C216  
WPH FIELD TEST 3

MODEL-PCIN7 : 4-06

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USAF TURBINE ENGINE EMISSIONS INVENTORY  
CONCENTRATION EDIT REPORT

SET 1628-001-1077

REPORT DATE 10/24/77  
USAF CONTRACT F08635-77-C216  
WPB

SCOTT TEST 3, TYPE A

FIELD TEST 3

TMC		NMX		NU		(U-M)		CG-LO		C02		TEMP	
RNG	VOLTS	RNG	VOLTS	RNG	VOLTS	RNG	VOLTS	RNG	VOLTS	RNG	VOLTS	INPUT	REFR

MODE-POINT : 5-07

SPAN/ZERO ADJ.

SAMPLE DATA :

TIME : 1316

PROBE POS.: -30

-14.91 IN.

PRESS.: 33.11 PSIA

AVERAGE :

CONCENTRATION :

MODE-POINT : 5-08

SPAN/ZERO ADJ.

SAMPLE DATA :

TIME : 1318

PROBE POS.: -30

-11.01 IN.

PRESS.: 30.65 PSIA

AVERAGE :

CONCENTRATION :

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SCOTT ENVIRONMENTAL TECHNOLOGY INC.  
USAF TURBINE ENGINE EMISSIONS INVENTORY  
CONCENTRATION EDIT REPORT

SET 1626-COI-1077

REPORT DATE 10/24/77  
USAF CONTRACT F06635-77-0216  
WPB FILLD TEST 3

SCOTT TEST 3,TYPE A

F100

# 660301

8/16/77

THC		NOX		NO		CO-HI		CO-LO		CO2		TEMP	
RNG	VOLTS	RNG	VOLTS	RNG	VOLTS	RNG	VOLTS	RNG	VOLTS	RNG	VOLTS	INPUT	REFER

MODE-POINT : 5-09

SPAN/ZERO ADJ.

SAMPLE DATA :

TIME : 1120

PROBE POS.: -30

-7.17 IN.

PRESS.: 30.70 PSIA

AVERAGE :

CONCENTRATION :

MODE-POINT : 5-10

SPAN/ZERO ADJ.

SAMPLE DATA :

TIME : 1123

PROBE POS.: -30

5.37 IN.

PRESS.: 31.22 PSIA

AVERAGE :

CONCENTRATION :

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USAF TURBINE ENGINE EMISSIONS INVENTORY  
CONCENTRATION LOIT REPORT

SET 1628-001-1077

REPORT DATE 10/20/77  
USAF CONTRACT F08635-77-0216  
WPA

F100 # 680301

SCOTT TEST 3,TYPE A

8/16/77

FIELD TEST 3

MODE-POINT : 5-11

SPAN/ZERO ADJ.

SAMPLE DATA :

TIME : 1325

PROBE POS.: -30

10.00 IN.

PRESS.: 31.95 PSIA

AVERAGE :

CONCENTRATION :

MODE-POINT : 5-12

SPAN/ZERO ADJ.

SAMPLE DATA :

TIME : 1327

PROBE POS.: -30

13.00 IN.

PRESS.: 19.37 PSIA

AVERAGE :

CONCENTRATION :

IMC	NO	NOX	CO-HI	CO-LO	CO2	TEMP.
RNG VOLTS	RNG VOLTS	RNG VOLTS	RNG VOLTS	RNG VOLTS	RNG VOLTS	INPUT REFER
.99 .0022 1.08 .0035 1.09 .0070 1.10 .1497 .98 .0394 1.19 .0806						
10.00 .3683 250.00 .6264 250.00 .3787 1 1.5363 1 2.3565 1 .7502 .10 .00						
.3004 .3925 1.5364 2.3486 .7475 .10 .00						
.3554 .4078 1.5371 2.3593 .7500 .10 .00						
.4257 .4064 1.5362 2.3633 .7501 .10 .00						
.2770 .3915 1.5356 2.3577 .7512 .10 .00						
.3453 .3954 1.5363 2.3571 .7498 .10 .00						
172.67 PPMC 98.85 PPMV 10944.43 PPMV .00 PPMV 13.22 VOL -0 DEG.F						
.99 .0445 1.08 .0072 1.09 .0076 1.11 .1568 .98 .0415 1.20 .0844						
5.00 .2318 100.00 .3448 100.00 .0386 1 .6822 1 1.8004 .10 .00						
.2519 .0316 .6580 1.7400 .3658 .10 .00						
.2384 .0383 .6537 1.7058 .3712 .10 .00						
.2373 .0418 .6679 1.7053 .3748 .10 .00						
.2246 .0426 .6632 1.6926 .3787 .10 .00						
.2368 .0386 .6650 1.7301 .3728 .10 .00						
59.20 PPMC 98.86 PPMV 3388.98 PPMV .00 PPMV 3.52 VOL -0 DEG.F						

NOTE \*\* DATA MARKED WITH AN ASTERISK (\*) NOT INCLUDED IN AVERAGE



SCOTT ENVIRONMENTAL TECHNOLOGY INC. REPORT DATE 10/24/77  
 USAF CONTRACT F08635-77-0216  
 CONCENTRATION (OIT REPORT) SCOTT TEST 3, TYPE A 8/18/77 F100 M 640301 MPH FIELD TEST 3

SET 1628-C01-1077

THC		NOX		CO		CO-HI		CO-LO		CO2		TEMP	
RNG	VOLTS	RNG	VOLTS	RNG	VOLTS	RNG	VOLTS	RNG	VOLTS	RNG	VOLTS	INPUT	REFER
.99	.0057	1.08	.0021	1.08	.0069	1.05	.0058	.97	.0205	1.11	.0463		
10.00	.1470	1000.00	.3149	250.00	.9650	1	1.5253	1	2.4604	1	.7399	442.9	83.2
	.1370		.3106		.9726		1.5245		2.4605		.7389	464.3	83.2
	.1204		.3118		.9710		1.5250		2.4545		.7392	475.7	83.2
	.1024		.3126		.9724		1.5248		2.4581		.7359	482.6	83.2
	.1314		.3062		.9585		1.5243		2.4630		.7353	485.8	83.2
AVERAGE :	.1276		.3116		.9715		1.5248		2.4594		.7379	470.3	83.2
CONCENTRATION :	63.02 PPMC	311.61 PPMV	242.98 PPMV	10847.45 PPMV				.00 PPMV		12.76 2 VOL	3596.3 DEG.F		

MODE-POINT : 5-13

SPAN/ZERO ADJ.

SAMPLE DATA :

TIME : 1303

PROBE POS.: 30

.08 IN.

PRESS.: 30.64 PSIA

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NEPSS	1
HQ TAC/DEEV	1
HQ TAC/SGP	1
HQ USAFE/DEEV	1
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HQ SAC/DEEV	1
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